

TURBOCHARGE YOUR JEEP TJ

PETERSEN'S
4WHEEL
& OFF-ROAD



**HOMEBUILT
BUMPER HOW-TO**

**TOOLS FOR
TRAIL RIGS**

TOOLS FOR TOUGH PROJECTS
BUILD YOUR DREAM TRUCK
ORGANIZE YOUR DREAM SHOP
WHAT'S IN YOUR TRAIL BAG?
TOOLBOX TECH



**▶ ARIZONA
ROCK WHEELIN'**

▶ STRAIGHT-AXLE TAHOE

▶ ULTIMATE SUMMER CAMP JEEP PROJECT

**A WAGONEER
WITH SECRETS
INSIDE, PAGE 44**



TEN

**THE
ENTHUSIAST
NETWORK**

64



COVER SECTION TOOLS 4 TRAIL RIGS

24 TOOL TIME

From wrenches to wiring, we got what you need

34 THE NEXT LEVEL

When you outgrow your garage

56 A BOX FOR TOOLS

Don't throw wrenches. Put them in their place

58 TOOLS FOR THE TRAIL

What to bring for dirt repairs

68 BUY IT OR BUILD IT?

How a welder can save you money if you have time

72 FAB SHOP HEROES

Cut, grind, and weld with these must-have fab tools



58



72

TECHNICAL

74 JEEP SIDEWINDER TURBO

Banks Power behind your TJ grille

78 ULTIMATE SUMMER CAMP JEEP PART 2: Power, gearing, and suspension

84 ROSCO P. DRIVETRAIN PART 4: Mounting shocks

FEATURES

44 SLEEPER SLEEPER

This Wagon looks stocks, but it's not

50 WHEELING AZ ROCKS

Arizona rockcrawling at its finest

64 FERD

A rugged wheelin' 1966 F-100

50



DEPARTMENTS

11 4XFORWARD

12 IN BOX

14 READERS' RIDES

18 DRIVELINES

88 NEW PRODUCTS

90 NUTS & BOLTS

93 MARKETPLACE

98 WHOOPS!



ON THE COVER: Verne Simons caught Kyle Evans' clean Wagoneer in Moab. Although it looks like a showroom floor example of a 1976 fullsize Jeep, it's hiding much mojo under that orange sheetmetal. Harry Wagner documented the homebrew bumper build on Dylan McFarlane's late-model Chevy.



IT'S A WHOLE NEW ANIMAL.

THE ALL-NEW WOLVERINE.™

Introducing the latest member of the Yamaha off-road family. One of the wild's most tenacious and aggressive creatures, its ability to traverse extreme terrain with superior handling and off-road capability is unparalleled. It features Yamaha's legendary Ultramatic® automatic transmission, On-Command® 4WD, class-leading long-travel suspension, plus so much more. The all-new Wolverine. It's an entirely new breed of off-road animal.

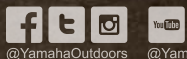
To see Wolverine in action scan:



REAL WORLD TOUGH.

For your nearest Pro Yamaha dealer and to learn more about the Wolverine, visit YamahaWolverine.com

Professional drivers depicted on a closed course. Always protect the environment and wear your seat belt, helmet, eye protection and protective clothing. Read the owner's manual and product warning labels before operation. Model shown with Genuine Yamaha Accessories. ©2014 Yamaha Motor Corporation, U.S.A. All rights reserved.



@YamahaOutdoors

@YamahaMotorUSA



MAKING TRAILS

RECEIVE UP TO A **\$70** VISA PREPAID CARD
WITH THE PURCHASE OF 4 QUALIFYING GENERAL
TIRES AUGUST 10-SEPTEMBER 11, 2015

**BUY 4 SELECT
GENERAL TIRES**



GET UP TO \$70 BACK

\$70
MAIL-IN REBATE



GRABBER™
& other select tires¹

\$50
MAIL-IN REBATE



AltiMAX™ RT⁴³
& other select tires¹

¹\$70 MAIL-IN REBATE INCLUDES GRABBER™, GRABBER™ AT™, G-MAX™ AS-03, GRABBER™ HTS60, GRABBER™ HTS, GRABBER™ STX, GRABBER™ UHP

²\$50 MAIL-IN REBATE INCLUDES ALTIMAX™ ARCTIC, ALTIMAX™ HP, ALTIMAX™ RT, ALTIMAX™ RT⁴³, EVERTREK™ RTX, AMERITRAC™, AMERITRAC™ TR, GRABBER™ AW, GRABBER™ HP, GRABBER™ TR

***GIFT WITH PURCHASE/MAIL-IN REBATE OFFER:** VALID ONLY WITH QUALIFIED PURCHASE MADE IN THE FORTY- EIGHT (48) CONTIGUOUS CONTINENTAL U.S. AND D.C. BETWEEN 8/10/15 AND 9/11/15 OR WHILE SUPPLIES LAST. NO RAIN CHECKS. VALID WITH THE ORIGINAL, DATED, PAID RECEIPT FOR THE PURCHASE OF FOUR (4) NEW QUALIFYING GENERAL TIRE PASSENGER OR LIGHT TRUCK TIRES FROM A PARTICIPATING RETAIL DEALER. OFFER MAY NOT BE COMBINED WITH ANY OTHER OFFER, DISCOUNT, REBATE, OR PROMOTION. TIRES MUST BE PURCHASED IN A SINGLE TRANSACTION. OFFER FORM MUST BE POSTMARKED OR SUBMITTED ONLINE BY 10/1/15. OFFER NOT VALID ON PURCHASES BY WHOLESALERS, DEALERS, FLEETS, OEM CUSTOMERS, OR OTHER COMMERCIAL ENTITIES. REQUESTS FROM THOSE WITH AN INVALID OR UNDELIVERABLE MAILING ADDRESS WILL BE DENIED. LIMIT TWO (2) GENERAL TIRE VISA® PREPAID CARDS PER HOUSEHOLD. THIS CARD IS ISSUED BY CENTERSTATE BANK OF FLORIDA, NA PURSUANT TO A LICENSE FROM VISA U.S.A., INC. NOT RESPONSIBLE FOR LATE, LOST, STOLEN, MISDIRECTED, ILLEGIBLE, MUTILATED, OR POSTAGE DUE MAIL OR INABILITY TO CONNECT TO WEBSITE. VOID IN ALASKA AND HAWAII AND WHERE RESTRICTED OR PROHIBITED BY LAW. ANY TAXES, FEES OR COSTS ARE SOLE RESPONSIBILITY OF RECIPIENT.

ANYWHERE IS POSSIBLE // GENERALTIRE.COM/MAKING-TRAILS



LEARN MORE



44.157495, -122.016713

ALLOW 8-12 WEEKS FOR FULFILLMENT. PREPAID CARDS WILL NOT HAVE CASH ACCESS AND CAN BE USED EVERYWHERE VISA DEBIT CARDS ARE ACCEPTED. EACH TIME YOU USE THE CARD THE AMOUNT OF THE TRANSACTION WILL BE DEDUCTED FROM THE AMOUNT OF YOUR AVAILABLE BALANCE. CARD WILL BE ISSUED IN THE NAME ON THE REDEMPTION FORM ONLY. CARD EXPIRES AFTER 6 MONTHS. SUBJECT TO APPLICABLE LAW, CARD IS NON-TRANSFERABLE AND NON-REFUNDABLE. TERMS AND CONDITIONS APPLY TO THE PREPAID CARD. SEE PREPAID CARD FOR DETAILS. VISIT WWW.GENERALTIRE.COM FOR REDEMPTION FORM AND COMPLETE OFFER CONDITIONS AND RESTRICTIONS. **WARNING:** TAMPERING WITH, ALTERING, OR FALSIFYING PURCHASE INFORMATION CONSTITUTES FRAUD AND COULD RESULT IN STATE AND FEDERAL PROSECUTION.

GENERAL TIRE™



WWW.GENERALTIRE.COM

OFFROAD DESIGN



GM SUSPENSION

- ▶ Full Suspension Systems from 2" to 12"
- ▶ HD Shackles & Greasable Bushings
- ▶ Shackle Flips from '67 to '06
- ▶ '73-'87 Front Coilover System
- ▶ HD Shackles & Greasable Bushings
- ▶ Link/Coil Brackets & Parts

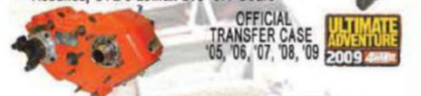
STEERING

- ▶ Crossover & Highsteer for Dana60 & Dana44/Corp. 10-bolt
- ▶ HD Tierods & Custom Linkage



TRANSFER CASE UPGRADES

- ▶ Doubler 4:1 203/205 Dual T-cases
- ▶ NP205 Stock & Conversion Adapters
- ▶ Complete Transfer Cases Available
- ▶ Rebuilds, SYE's Lomax 205 3:1 Gears



HD AXLE PARTS

- ▶ Gears, Lockers, Rebuild Parts
- ▶ HD Knuckles & Covers
- ▶ Chromoly Shafts & Joints



BODY ARMOR/FRAME BRACING

- ▶ Tube Winch Bumpers
- ▶ HD Engine Crossmembers
- ▶ Steering Box Bracing & Repair Kits
- ▶ GM Tube Doors



970-945-7777

www.offroaddesign.com

DEALER INQUIRIES WELCOME

PETERSEN'S 4WHEEL & OFF-ROAD

WWW.4WHEELOFFROAD.COM

EDITORIAL

NETWORK CONTENT DIRECTOR Rick Péwé
EDITOR Fred Williams, fred.williams@4wheeloffroad.com, facebook.com/4xfred, Instagram & Twitter @4xfredwilliams
MANAGING EDITOR Craig Johnson
SENIOR EDITOR Verne Simons
CONTRIBUTORS Drew Hardin, Jerrod Jones, Jay Kopycinski, Trenton McGee, Tom Morr, Harry Wagner

ART DIRECTION & DESIGN

ART DIRECTOR Alan Huber

MANUFACTURING & PRODUCTION OPERATIONS

VP, MANUFACTURING & AD OPS. Greg Parnell
SENIOR DIRECTOR, AD OPS. Pauline Atwood
ARCHIVIST Thomas Voehringer

READER SERVICES

4WHEELANDOFFROAD@EMAILCUSTOMERSERVICE.COM; or write to 4-Wheel & Off-Road, P.O. Box 420235, Palm Coast, FL 32142-0235; or call 800.800.4294. International: 386.447.6385. Please include name, address, and phone number on any inquiries.

Occasionally our subscriber list is made available to reputable firms offering goods and services we believe would be of interest to our readers. If you prefer to be excluded, please send your current address label and a note requesting to be excluded from these promotions to **TEN: The Enthusiast Network, LLC**, 831 S. Douglas St., El Segundo, CA 90245, Attn: Privacy Coordinator.

Canada Post: Return undeliverable Canadian addresses to IMEX Global Solutions, P.O. Box 25542, London, ON N6C 6B2.

BACK ISSUES: To order, visit <https://www.circsource.com/store/storeBackIssues.html>.

REPRINTS: Contact Wright's Media at 877.652.5295 (281.419.5725 outside the U.S. and Canada) to purchase quality custom reprints or e-reprints of articles appearing in this publication.

SUBMISSIONS: Submissions or contributions from readers shall be subject to and governed by TEN: The Enthusiast Network's User Content Submission Terms and Conditions, which are posted at www.enthustianetwork.com/submissions.

ADVERTISING INFORMATION

Please call the 4-Wheel & Off-Road advertising department at **949.705.3210**. Related publications: Automobile, Car Craft, Chevy High Performance, Circle Track, Classic Trucks, Diesel Power, Dirt Sports & Off-Road, 8-Lug HD Truck, Engine Masters, European Car, Four Wheeler, Hot Rod, Hot Rod Deluxe, Jp, Lowrider, Mopar Muscle, Motor Trend, Muscle Car Review, Muscle Mustangs & Fast Fords, Mustang Monthly, Recoil, Street Rodder, Super Chevy, Super Street, Truckin, Truck Trend, and Vette.

To advertise on this magazine's website or any of TEN: The Enthusiast Network's other enthusiast sites, please contact us at am-advertising@enthustianetwork.com.

ADVERTISING

GENERAL MANAGER Steve vonSeggern, svonseggern@enthustianetwork.com
ADVERTISING COORDINATOR Vinoy Khanikar
EVENT COORDINATOR Glenda Mack

• **LOS ANGELES SALES OFFICE**, 831 South Douglas Street, El Segundo, CA 90245, 310.531.9900

• **IRVINE SALES OFFICE**, 1821 East Dyer Road, Ste. #150, Santa Ana, CA 9205, 949.705.3100

• **NEW YORK SALES OFFICE**, 261 Madison Avenue, New York, NY 10016, 212.915.4000

• **DETROIT SALES OFFICE**, 4327 Delemere Court, Royal Oak, MI 48073, 248.594.5999

• **MIDWEST SALES OFFICE**, Marc Gordon, 312.396.0620

• **SOUTHEAST SALES OFFICE**, Brit White, 813.675.3479

TEN: THE ENTHUSIAST NETWORK, LLC

CHAIRMAN Peter Englehart
CHIEF EXECUTIVE OFFICER Scott P. Dickey
EVP, CHIEF FINANCIAL OFFICER Bill Sutman
PRESIDENT, AUTOMOTIVE Scott Bailey
EVP, CHIEF CREATIVE OFFICER Alan Albanian
EVP, SPORTS & ENTERTAINMENT Norb Garrett
EVP, CHIEF CONTENT OFFICER Angus MacKenzie
EVP, OPERATIONS Kevin Mullan
SVP, ENTERPRISES Tyler Schulze
EVP, SALES & MARKETING Eric Schwab
SVP, DIGITAL OPERATIONS Dan Bednar
SVP, SALES OPERATIONS Matt Boice
SVP, FINANCIAL PLANNING Mike Cummings
SVP, AUTOMOTIVE DIGITAL Geoff DeFrance
VP, EDITORIAL OPERATIONS Amy Diamond
EVP, AFTERMARKET AUTOMOTIVE Doug Evans
SVP, CONTENT STRATEGY, AUTOMOTIVE David Freiburger
SVP, DIGITAL, SPORTS & ENTERTAINMENT Greg Morrow
VP, DIGITAL MONETIZATION Elisabeth Murray
SVP, MARKETING Ryan Payne
EVP, MIND OVER EYE Bill Wadsworth

CONSUMER MARKETING, ENTHUSIAST MEDIA SUBSCRIPTION COMPANY, INC.

SVP, CIRCULATION Tom Slater
VP, RETENTION & OPERATIONS FULFILLMENT Donald T. Robinson III



THE ENTHUSIAST NETWORK™



COPYRIGHT 2015 BY TEN: THE ENTHUSIAST NETWORK MAGAZINES, LLC. ALL RIGHTS RESERVED. PRINTED IN THE USA.

4WHEELOFFROAD.COM



JK WRANGLER SPORT KIT

Corrects steering geometry to
eliminate bump steer and increases
anti-dive for improved braking

- **NEW** High Steer Kit
- **NEW** Control Arm Geometry Correction Brackets
- 3.5-inch front and rear replacement coil springs
- Front and rear cam bolts for caster and pinion adjustment
- Bump stops
- Rear track bar bracket
- Extended sway bar end links

EASILY UPGRADABLE TO
SUPER-FLEX SYSTEM



HASSLE FREE WARRANTY.
WE BUILD IT SO YOU CAN USE IT.

MADE IN THE



U.S.A



3.5" SPORT COIL SYSTEM
RE7125/ RE7145



4X4 ACCESSORIES

WE RAISED THE BAR. AGAIN.

Introducing the uniquely engineered and ruggedly built, **ARB Modular Bull Bar** for your full size Ram, Ford or Chevrolet truck. See the different configurations and applications at **ARBUSA.com/raisedthebar**.



ARB 4X4 ACCESSORIES 720 SW 34th Street, Renton, WA 98057 Tel: 866.293.9083 Email: sales@arbusera.com

www.arbusera.com

[f FB.com/arbusera](https://www.facebook.com/arbusera)

BY 4xFredWilliams



CRUNCH TIME!

NEXT MONTH'S ISSUE WILL carry Part 1 of our Ultimate Adventure coverage. This month's issue has Part 2 of the buildup of our Ultimate Adventure Jeep project, and I'm really tired. I'm really tired because we've been burning the midnight oil (also known as 2 to 3 a.m. oil) to get the little Jeep done, and as this issue goes to print we're not 100 percent sure it is going to make it. (Actually, I'm sure it will make it; we always make it; it'll just be down to the wire [and wiring] as usual.) I will say that when it's done it will be awesome. Even if you don't like Jeeps, wild colors, or another boring Chevy LS engine swap, I still think you'll like the Summer Camp Jeep.

I am having an awesome time building the Jeep with the guys from Synergy Manufacturing, which has made the long hours more fun. In fact, when those long hours extend to 2 or 3 a.m. it's really fun, and funny. The other night (morning) we were building stuff and laughing from lack of sleep, and it was great, and I have no idea what we were even laughing at! I think that's the point. Sometimes your project vehicle builds go much easier with help. It's why 4x4 clubs were started, so you have buddies to bench race wheel with, go 4-wheeling with, and help you lift that transfer case into the belly of your rig at midnight so you can go wheeling the next day.

It's the same when working on a magazine; sometimes you just need more hands on deck. If you're interested in writing for the magazine then drop me a line at fwilliams@enthusiastnetwork.com. Send me your resume and a sample of your writing and photography. Don't expect a reply, don't expect to get rich, and don't expect a full-time job. You need to be able to write and take photos, work hard, and love 4x4s.

Before I close I want to mention a guy named Pete. Pete was the editor of *Jp* magazine, and although I never worked on the same magazine as he did, I did work in the same company so our paths crossed. Pete was an awesome guy; he did what he wanted and didn't follow any paved roads. He was an electrical whiz, a true Jeep enthusiast, and a really great guy. Recently Pete passed away in his sleep and will be missed, but I think he lived a great life and didn't fall into the mold, which is important. But he died too young, and I think that should be a reminder to us all that life isn't always that long, so you better do everything that you want to do. 🇺🇸

TOUGH Clear, Serious Strength EPOXY



Gorilla Epoxy combines superior strength, speed and clarity to deliver the highest performance bond, whatever the application. It's serious strength when you need it.



**For the Toughest Jobs
on Planet Earth®**

www.gorillatough.com

©2015 The Gorilla Glue Company

PETE TRASBORG (1977-2015)

By Verne Simons

PHOTOGRAPHY MISSY HOWARD

ON MAY 15, 2015, WE LOST A good friend and colleague, the head editor of *Jp* magazine, Pete Trasborg. As you may know, *Jp* is a sister magazine to *Petersen's 4-Wheel & Off-Road*. We are owned by the same company, and thus several of us have worked with Pete over the past 10 years since he was hired.

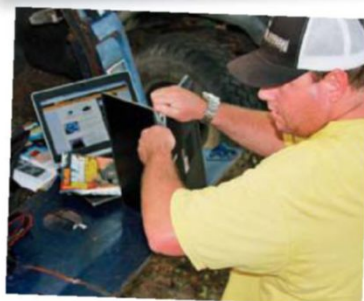
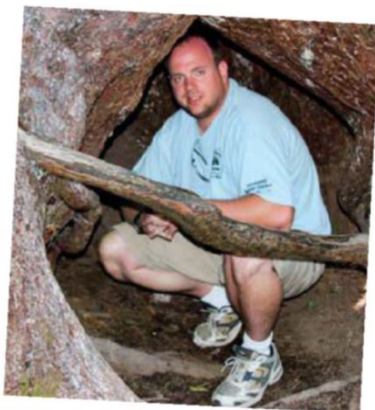
Pete was a friend of many and was always willing to help and share his knowledge of Jeeps, 4x4s, electrical systems, his favorite beer, camp food, and off-road trails. Pete's personality and warm heart endeared him to everyone who met him, and he had an uncanny way of making you feel like he knew you, knew your love of Jeeps (or 4x4s), and was your friend.

Pete was born on October 1, 1977, and grew up New Jersey. Pete became a true Jeep nut back east in those days when working for a magazine was no more than a dream. Prior to the magazine gig Pete spent time at a couple architectural drawing firms in New York and New Jersey before loading up and driving a rusty old Wrangler to Los Angeles in 2005 to start working at *Jp*.

Pete was an avid outdoorsman who was, among other things, an Eagle Scout in the Boy Scouts of America. Pete loved camping and Jeeping, spending time with friends, telling stories, and laughing around a campfire. His tales and experiences were many, and Pete would very often end up spinning yarns with his odd-ball and unforgettable sense of humor for the enjoyment of all within earshot.

Pete developed several memorable magazine projects and columns while at *Jp*. For example, his often humorous and insightful "Randy's Electrical Corner" column showed his uncanny knowledge of electrical systems and capitalized on his looks, which resembled a character from the TV show *My Name Is Earl*. This column, written with the pen name and in the full character of Randy, showed Pete's savant-like knowledge of electrical systems, adding one of many strengths to the magazine thanks to Pete.

The stories about Pete are too many to reiterate here, but we can't help but share a few. One story worth a mention ties together Pete's inability to leave well



enough alone and his incredible knowledge of electronics. *Jp*'s editor at the time, John Cappa, walked by Pete's office to find that he had disassembled a brand-new (like out-of-the-box new that week) cell-phone. Pete sat there with some tools and little parts scattered over the desk. Cappa asked what happened, and Pete replied that he was "modifying the antenna to get better signal in rural areas." And it worked.

Pete was behind several memorable Jeep builds, like the time he and friends rebuilt a rusty old CJ-8 Scrambler as he traveled with the new acquisition across the U.S. All along the way back to Southern California, Pete and his friends installed new or used parts on the Jeep as the CJ-8 sat on a trailer in a driveway or a random parking lot.

Pete also swapped an engine from a Caprice Classic into a 1995 Jeep Wrangler in the parking garage of the Petersen Building on Wilshire Boulevard. This is a feat many magazine editors contemplated but only Pete attempted and pulled off.

There was Moses, Pete's beloved M715 five-quarter-ton project. This particular Jeep got its name after rolling down a driveway back in New Jersey. Pete said that as the big Jeep rolled, all the little Jeeps nearby scattered from the path of the big Jeep like when Moses parted the Red Sea.

Pete later swapped newer axles under Moses. He was a fan of driving the big Jeep everywhere, including Johnson Valley, California, for some memorable battery testing and all the way from Los Angeles to Moab, Utah, for Easter Jeep Safari one year. That trip involved a huge fuel bill because Moses got 5-6 mpg. This trip also led to several roadside adventures after the transmission exploded on the way home and the Jeep was towed back to Moab for repairs. John Cappa claims Moses had more electrical components than the space shuttle, and it probably still has.

Pete lived life to the fullest and would not want his many friends mourning his passing. Despite that, as we all try to cope, we will in honor of Pete remember the good times. You can be sure Pete would want us to do something fun or good for our sport and lifestyle. So if you're thinking of Pete, do us and him a favor and go 4-wheeling. Go camping. Go on an adventure in an eclectic vehicle with someone you love. Or go spin wrenches on that project you've always dreamed of no matter how weird or wild. In short, live life as Pete would, doing what you enjoy most and being good to others while doing it. 🚗



1 TRIM & BUMPER PAINT

Renews and protects weathered bumpers.

2 UNDERCOATING

Provides corrosion protection.

3 TRUCK BED COATING

Prevents bed damage from scratches, dirt and weather.

Rust-Oleum Automotive Coatings are forged with tougher than tough, heavy duty protection your truck can depend on.





BONE-STOCK BINDER

VEHICLE: 1964 International Harvester 1100 **OWNER:** Colin Burton, Salt Lake City, UT
TIRES & WHEELS: 35x12.5R15 Trail Mark M/Ts on 15x8 chrome steelies **SUSPENSION:** Custom 4-inch lift leaf springs, Fabtech shocks **DRIVETRAIN:** IH 266 V-8, T18 4-speed manual transmission, NP205 transfer case, Dana 44 axles with 4.10 gears **OTHER DOODADS:** Added seatbelts and stereo **DOES EVERYTHING WORK THE WAY YOU WANT?:** Works great for now **ANYTHING YOU WOULD CHANGE?:** Lockers, power steering, new tires **ANYTHING TO ADD?:** Old trucks are still the best off-road



BLOWN XJ

VEHICLE: 2000 Jeep Cherokee **OWNER:** Steve Riendeau, Blackstone, MA **TIRES & WHEELS:** 35-inch BFGoodrich KM2s on 15x10 Mickey Thompsons **SUSPENSION:** 8-inch mostly Rough Country lift, Rough Country shocks **DRIVETRAIN:** AW4 transmission, NVG231 transfer case with SYE, high-pinion Dana 30 front axle, Chrysler 8 $\frac{3}{4}$ rear axle with Lock-Rite locker, 4.88 gears **PERFORMANCE MODS:** M62 supercharger with 8 psi of boost, methanol injection, Comp cam, big-valve head with 5-angle valve job, oversize throttle body, relocated alternator, 10-inch electric fans, 3-core aluminum radiator, transmission cooler, power steering cooler, JBA header, MagnaFlow cat and muffler **OTHER DOODADS:** ARB snorkel, Superwinch Talon 9.5 winch, RLC front bumper, JCR rear bumper, JCR rock rails, JCR 1-ton over-the-knuckle steering, Ballistic fabrication front joints, Rough Country control arm drop brackets, JKS ACOS adjustable coil spacers, Rigid LED lights, Bushwacker cutouts, Hella H4 conversion, rear disc brake conversion, Zone rear shock relocation **DOES EVERYTHING WORK THE WAY YOU WANT?:** Everything works great. The only thing I plan to change is fabricating a long-arm kit in the front.

MUDDY SUZI



VEHICLE: 1985 Suzuki SJ410 **OWNER:** Larry Simons, Brush Prairie, WA **TIRES & WHEELS:** 33x12.5 Mud Stars on Cyclone wheels **SUSPENSION:** Spring-over lift, Bilstein shocks **DRIVETRAIN:** 5-speed Sidekick transmission, stock SJ transfer case, stock Samurai front axle, hybrid rear axle with 5.12 gears and mini-spool, 5.12 gears **PERFORMANCE MODS:** K&N air filter **OTHER DOODADS:** High-steer, custom front winch bumper, LED lights, H4 head lights, Herculliner paint **DOES EVERYTHING WORK THE WAY YOU WANT?:** Works good for now **ANYTHING YOU WOULD CHANGE?:** Locker in front, onboard air, spare tire carrier on rear bumper **FUNNIEST WHEELING INCIDENT:** Doing all the body work and putting a dent in the back corner first time out



**THE TRAIL AHEAD
LOOKS ROUGH. YOU:**

- ☐ ask for mercy
- ☐ ask for more

© 2015 MNA, Inc.

THE NEW BFGOODRICH® ALL-TERRAIN T/A KO2

Our toughest all-terrain tire ever is made for Playground Earth,[™] but it's not made for everyone. Are you driver enough? If so, find yours at bfgoodrichtires.com



BFGoodrich
Tires

BUDGET BUILD

VEHICLE: 1993 Explorer Sport

OWNER: Dennis Dagneau, Quesnel, B.C., Canada

TIRES & WHEELS: 36x12.5R15 Super Swampers on 15x10 American Racings

SUSPENSION: F-150 4x4 coils in front, spring-over in the rear

DRIVETRAIN: 5-speed transmission, manual-shift transfer case, Dana 35 front axle, Ford 8.8 rear axle, 3.55 gears

PERFORMANCE MODS: Airaid filter, glasspack muffler

OTHER DOODADS: Fiberwerx Ranger prerunner fenders up front, 1999 Exploder rear flares

DOES EVERYTHING WORK THE WAY YOU WANT?: Sure, but always room for improvements **ANYTHING YOU WOULD CHANGE?:** Front SAS, V-8 **ANYTHING TO ADD?:** Truck cost me an estimated \$2,000 to build it to what it is now — parts salvage special, wahoooo!



FEISTY 4RUNNER

VEHICLE: 1985 Toyota 4Runner **OWNER:**

Steve Cronkhite **TIRES & WHEELS:** 37x14R15

Interco Iroks on Mickey Thompsons **SUSPEN-**

SION: 5-inch Trail Gear lift, Bilstein piggyback

shocks **DRIVETRAIN:** 22RE, 5-speed transmis-

sion, Trail-Gear Trail-Creeper 4.7:1 dual transfer

case, FJ40 reverse-rotation front third-mem-

ber, later-model Toyota IFS truck rear axle, 4.88

gears **OTHER DOODADS:** Crossover steering

ANYTHING YOU WOULD CHANGE?: Hydraulic steering, heavy-duty clutch, coiled front end



TUGGER

VEHICLE: 1985 PSI MB-4 Military Tug **OWNER:** Josh Budde, Newton, KS **TIRES & WHEELS:**

480/80R26 Goodyear Ag tires (56 inches tall, 19 inches wide), 26-inch steel Ag wheels **SUS-**

PENSION: Stock leaf springs **DRIVETRAIN:** Power shuttle (Forward/Reverse) with three-speed

range, 2WD/4WD selectable single-speed transfer case, PSI industrial axles with planetaries,

17.22:1 ratio, four-wheel steering, disc brakes **PERFORMANCE MODS:** Perkins 236T I-4 turbo-

diesel, altered injection pump and injectors, open exhaust **OTHER DOODADS:** Removed approx-

imately 7,000 pounds of "body" and steel, lots of LED lights, running boards **DOES IT WORK**

THE WAY YOU WANT?: Yes, it does great in snow and mud but could still go on a diet **FUNNIEST**

WHEELING INCIDENT: Pulled county road grader out of the ditch during the last snow **ANY-**

THING YOU WOULD CHANGE?: I had the chance to buy two of these at scrap steel price, and

just bought the one. Could kick myself for not getting both. **ANYTHING TO ADD?:** It is surprising

where this thing will really go: deep snow, mud, and rocks. And it really was a low-buck build.



SHERIDAN SR5

VEHICLE: 1994 Toyota 4Runner SR5

OWNER: Hayes Henderson, Sheridan, WY

TIRES & WHEELS: 35x12.5R15 Good-

year MT/R Kevlars on some old aluminum

rims sitting in the garage **SUSPENSION:**

Around 8 inches of lift, Trail Gear HD

3-inch front/4-inch rear, front 12-inch

Bilstein 5100s, rear 14-inch Bilsteins

DRIVETRAIN: A340H trans/transfer-case

(joined unit), front 1982 Toyota truck

housing with Land Cruiser high-pinion

case, Detroit Locker, Longfield Birfields,

chromoly hub gears, Trail-Gear truss,

factory rear axle, Aussie Locker, Trail-Gear

armor, 4.88 gears **PERFORMANCE MODS:**

Stock 3VZ 3.0L V-6, Champion aluminum

radiator **OTHER DOODADS:** Later 4-pis-

ton IFS calipers, FJ vented rotors, high-

steer, FZJ 80 tie-rod ends, custom drive-

shafts, Smittybilt comp winch, Rock

Defense bumpers and sliders **FUNNIEST**

WHEELING INCIDENT: Showing off and

coming very close to rolling it sidehilling

on some ruts **DOES EVERYTHING WORK**

THE WAY YOU WANT?: A selectable lock-

er would be a huge improvement in the

front **ANYTHING YOU WOULD CHANGE?:**

Definitely could use more power. 3.4L

swap and a rollcage planned. **ANYTHING**

TO ADD?: Thanks to my buddies, even if

it's not a Jeep 🙌

SUBMISSION INFORMATION

Send us a picture of your ride if you've never done so. We keep a surplus of Readers' Rides submissions, but only one submission per person, and we love all off-road vehicles so send in your entries whether your rig is stock or not. Make sure each digital image is at least 1,600 by 1,200 pixels (or two megapixels) and saved as a TIFF, EPS, or maximum-quality JPEG file. **WRITE TO:** Readers' Rides, 4-Wheel & Off-Road, 831 S. Douglas St., El Segundo, CA 90245 **EMAIL TO:** readersrides@4wheeloffroad.com

- > **VEHICLE** (year, make, model)
- > **OWNER** (name, city, state)
- > **TIRES & WHEELS** (size, make, model)
- > **SUSPENSION** (lift, springs, shocks)
- > **DRIVETRAIN** (tranny, transfer case, axles)
- > **PERFORMANCE** (engine mods)
- > **OTHER MODS**
- > **DOES IT WORK THE WAY YOU WANT?**
- > **ANYTHING YOU WOULD CHANGE?**
- > **FUNNIEST WHEELING INCIDENT**
- > **ANYTHING TO ADD?**

FOURWHEELER

NETWORK

Your Ultimate Off-Road Connection

[SUBSCRIBE TO A MAGAZINE](#) [LOGIN](#) [SIGN UP](#)

FOURWHEELER NETWORK

What are you looking for?

[Jp MAGAZINE](#) [4 WHEEL DRIVE](#) [OFF ROAD](#) [MUD LIFE](#) [4 WHEEL & OFF ROAD](#) [FOURWHEELER](#)

[FORUMS](#) [BROWSE MAKES](#) [FEATURES](#) [HOW TO](#) [EVENTS](#) [PHOTOS](#) [VIDEOS](#) [SHOP](#)



Jp MAGAZINE 10th Anniversary Wrangler Rubicon
By Christian Hoot Press the March, 2013 issue of Jp



BEST JEEP EVER!



COMMUNITY FEED

brought to you by Jeep

185 ARTICLES **1,315** COMMENTS

Vernie Simons added an article on 04/23/13
1980 Jeep CJ-7 - Nip Tuck
Magazine: Jp

Jon Allen added an article on 04/23/13
June 2013 Backward Glances
Magazine: Jp

Sean P. Holman added an article on 04/23/13
2012 Jeep Wrangler - Weekender Wrangler - Part 4
Magazine: Jp

Robin Stover added an article on 04/23/13
Jeep Wrangler Sahara Edition: Fixing Your Suspension Issues Efficiently
Magazine: Jp

[recommended content](#)
The All New 2013 Toyota Tundra
View exclusive offers for summer

Pete Truesburg added an article on 04/23/13
Jeep Wrangler Sahara Edition: Fixing Your Suspension Issues Efficiently
Magazine: Pete Truesburg

Pete Truesburg added an article on 04/23/13
Project Long Range Clunker Part 5
Magazine: Jp

Sean P. Holman added an article on 04/23/13
Project 4Runner Backcountry Part 7
Magazine: OFF ROAD

Robin Stover added an article on 04/23/13
Jeep Wrangler Sahara Edition: Fixing Your Suspension Issues Efficiently
Magazine: Jp

[recommended content](#)
The All New 2013 Toyota Tundra
View exclusive offers for summer

Pete Truesburg added an article on 04/23/13
Jeep Wrangler Sahara Edition: Fixing Your Suspension Issues Efficiently
Magazine: Pete Truesburg

Pete Truesburg added an article on 04/23/13
Project Long Range Clunker Part 5
Magazine: Jp

MOST RECENT ARTICLES



1962 Willys - Short Bed A Vintage Adventure Willys
By Pete Truesburg June, 2013
Has our boredom with cookie-cutter Jeeps gone too far? Look, we aren't and haven't been saying that if you find a build that works for your platform and intended usage, do

FEATURE | Jp MAGAZINE

LIKES (1) COMMENTS (1)



1972 GMC 2500 Suburban - Sir 'Burban
By Ken Brubaker May 18, 2013
The Suburban, in production for a staggering 78 years, holds the record as the industry's longest-running model and the large GM SUV has stomped other would-be competitors who have come and went through the years.

FEATURE | FOUR WHEELER

LIKES (1) COMMENTS (1)



2014 Chevy Silverado High Country - All Classed Up
By Aquilino Jimenez February 01, 2013
Chevrolet has just unveiled its sleek Silverado High Country model which will join the LTZ and Z71 models in the Silverado lineup this fall. Vile have to admit, we are

FEATURE | 4 WHEEL OFF-ROAD MAGAZINE

LIKES (1) COMMENTS (1)



Rigs To Remember
By Four Wheeler Staff February 01, 2013
It's always fun to reminisce and bench race about old rigs, trail tales, and seemingly impossible ideas that never quite came to be. Sometimes a quick glance in the proverbial rearview mirror can remind us of things we've

FEATURE | FOUR WHEELER

LIKES (1) COMMENTS (1)



1975 Jeep CJ-5 - Apple Green A One-Of-A-Kind Classic
By Vernie Simons April, 2013
There is no doubt that Jeep is an American icon. Almost anyone from just about any part of the world knows what a Jeep is, what it's good for, and what it looks like.

FEATURE | Jp MAGAZINE

LIKES (1) COMMENTS (1)



2013 Pickup Truck Of The Year
By Ali Mansour February 01, 2013
For over 24 years we've put the latest 4x4 pickups available in our head-to-head battle that is Pickup Truck of the Year. To participate in the late-model truck showdown, the pickup has to be all-new or significantly

FEATURE | 4 WHEEL OFF-ROAD MAGAZINE

LIKES (1) COMMENTS (1)

FOURWHEELER

MUD LIFE

Jp

4 WHEEL
OFF-ROAD

Off-Road

4 WHEEL DRIVE
& SPORT UTILITY MAGAZINE

fourwheeler.com

BY Drew Hardin



ANOTHER LIGHTNING STRIKE?

Several online sources, including off-road.com and SEMA, have reported sightings of SVT F-150 mules around Detroit. One has a wider track and Fox shocks, plus dual exhaust exits through the rear bumper, all pointing to its being a development truck for the 2017 Raptor (seen here). The other truck is a 4x4 SuperCrew with similar through-the-bumper exhaust exits (most likely hooked to the new Raptor's twin-turbo EcoBoost V-6) but no corresponding Raptor-like stance, leading industry observers to wonder if it is a disguised prototype of a new SVT Lightning pickup.

You remember the Lightning, a hot-rodded F-150 offered by SVT starting in the mid-1990s. Early versions were powered by a 5.8L V-8 modified with speed parts from the Mustang. Later models had a blown 5.4 V-8 underhood. All were lowered 2WD trucks, making this 4WD mule interesting for sure.

BRAZILIAN RENEGADE

As it does for special events here in the U.S., such as the Easter Jeep Safari and the SEMA Show, Mopar recently dressed up several Jeep products for a show in Rio de Janeiro. The Renegade is manufactured in northeastern Brazil, so Jeep considered these concepts "homegrown." The one that caught our eye was the Off-Road Concept,



“Sightings of an SVT F-150 prototype in Detroit”



SPORTSMOBILE SPRINTER

Sportsmobile West, a longtime van conversion company in California, is now building its custom conversions on the Mercedes Sprinter 4x4 van chassis. The Sprinter is the first fullsize van with a factory 4x4 drivetrain option; previously if you wanted a fullsize 4WD van you had to go with an aftermarket driveline swap. Sportsmobile offers more than 40 floor plan options for its van conversions, as well as a design-it-yourself studio. For more info visit sportsmobile.com.



FULLSIZE TONKA TRUCK

We all played with one when we were kids, right? Well, who wouldn't want to get behind the wheel of 1:1 scale Tonka dump truck? That's what the engineers in Ford's commercial vehicles division figured when they collaborated with the toymaker to build a fully functional, bright-yellow dump truck using Ford's 2016 F-750 as its base. The Power Stroke-powered concept debuted at the NTEA Work Truck show in Indianapolis.



From left, House Rep. David Valadao, ORBA members Fred Wiley and Greg Adler, and Speaker of the House John Boehner.

FIGHTING THE GOOD FIGHT

With land closures, environmental issues, and other concerns having such a potential impact on 4-wheeling, it's good to know we have friends and allies sitting down to discuss these matters with the powers-that-be in Washington, D.C. Recently Greg Adler, president and CEO of Trans America Auto Parts (parent of 4-Wheel Parts Wholesalers) and Fred Wiley, president/CEO of the Off-Road Business Association (ORBA), met with John Boehner, Speaker of the U.S. House of Representatives, and House member David Valadao, to discuss land closures and other matters important to the OHV community.

Valadao is an avid ATV rider who has worked to keep Pismo and Oceano Dunes open for recreation. He also cosponsored a bill to reopen the Clear Creek Recreation Area in central California, which was closed by the BLM and EPA.

"It's not often that the opportunity presents itself when you can have the attention of congressional leadership where you can put a face on who we are and what we do," said Wiley of the meeting. "Just finding common ground in a friendly and positive way can go a long way towards building a relationship."

Following the meeting with Boehner and Valadao, Wiley told us that House Majority Leader Kevin McCarthy has accepted an invitation for a meeting, too. McCarthy will sit down with Wiley, Adler, and SEMA President Chris Kersting.

"This is a great opportunity to promote the off-road community as a whole, recreational motorized land use opportunities, access and trails, and allies in the fight towards keeping access for generations to come for areas like Johnson Valley," said Wiley.

THIS JUST IN

● **EVERYONE LOVES A PARADE**, especially one that goes down in history. At a Ram Truck Roundup held in conjunction with the Academy of Country Music Awards, 451 Ram pickups paraded around Arlington, Texas, to set a Guinness record for the largest parade of pickup trucks. Not to be outdone by their brother brand, Jeep owners at the Jeep Beach event in Florida put 1,846 Jeeps together for a parade around the Daytona Speedway, setting another Guinness record and breaking the record set at the 2011 Bantam Jeep Festival. As of this writing the latest Jeep Festival parade in Butler had yet to take place, so we'll have to wait to see if yet another record will be set.

● **CAL4WHEEL HAS CHANGED** its official name. What was the California Association of Four Wheel Drive Clubs is now the California Four Wheel Drive Association. "We still have a solid base of clubs with well over 50 percent of our members in clubs," said Steve Egbert, president of the association's board of directors. "But the clubs did recognize that we needed to appeal to potential members that are not interested in being in a traditional club." When it formed in 1959 the association was called the California Association of Jeep Clubs. "This is the third time we have adjusted our name to reflect changing times," said Egbert.

wearing cool looking camo graphics and sporting a mild lift to clear aggressive Pirelli Scorpion Mud tires. A roof basket holds emergency fuel and water tanks, a spare tire, and a Hi-Lift jack, while front and rear winches will tug the Renegade out of trouble.



EARTH WATCH

● **SEMA REPORTS LEGISLATION** directing the National Academy of Sciences to conduct a study on requirements for recreational off-highway vehicles (ROVs) proposed by the Consumer Product Safety Commission (CPSC) was passed by the U.S. Senate Commerce, Science, and Transportation Committee and awaits a vote before the full Senate. A U.S. House subcommittee also reviewed the bill and is expected to pass it. The legislation would postpone further action on the CPSC's proposed rule pending the study. SEMA submitted a letter in support of the legislation and has joined with other companies and organizations to support an alternative industry ROV standard that would not stifle future design innovations and potentially limit use.

● **ALSO FROM SEMA COMES** word that the passing of the National Defense Authorization Act included language that prohibits until 2025 the Interior Department from making a decision on whether to list the greater sage grouse under the Endangered Species Act (ESA). The issue is of critical importance to motorized recreation enthusiasts since the bird's habitat spans 165 million acres across 11 western states, and an ESA listing could threaten closure of roads and trails within that area. The states are working with local communities, private landowners, and industry to develop comprehensive voluntary efforts that would provide necessary protections for the grouse.

AUCTIONS AMERICA



OLD TRUCKS RULE

At least, that's the lesson we learned from a report recently released by collector car insurance company Hagerty. The analysis shows that the number of vintage pickups purchased by collectors has grown more than any other collector vehicle segment. Additionally, pickups have seen a value growth of 56 percent over the past five years, while other vehicle segments show an average growth of 13 percent. Plus, the number of classic pickups offered by the top 15 North American auction companies has doubled over the past three years.

According to Hagerty's data, Ford and Chevrolet make up nearly 90 percent of all classic pickups currently on the road, with 1960-1972 Chevy C10s and 1961-1972 Ford F-100s being the most popular. But other models of classic trucks are headed up in value too, including the 1948-1952 Ford F-1 (seen here), 1948-1952 Dodge B-Series trucks, the 1960-1966 Chevy K10, and even the late-1950s Studebaker Scotsman.



OLD TRUCKS RULE, PART 2

Recently GMC announced a discount program for U.S. military veterans. Accompanying the release, and illustrating GMC's longstanding relationship with the military (which goes back to World War I), were these archival photos of WWII-era Ducks, or DUKW amphibious 2½-ton trucks. The Ducks were built on a bus assembly line that was modified for the war effort. The first vehicle was delivered to the Army in 1943. GMC made more than 21,000 of them before halting production in 1945. You can still see one occasionally, although nowadays they're used to tote tourists around resorts rather than landing soldiers on some hard-fought beachhead.



CALENDAR

- **SEPT. 3-5:** Ouray Jeep Jamboree, Ouray, CO. Info: jeepjamboreeusa.com
- **SEPT. 4-5:** Stadium Supertrucks race, location TBD. Info: stadiumsupertrucks.com
- **SEPT. 4-7:** High Sierra Poker Run by the California Four Wheel Drive Association, near Shaver Lake, CA. Info: cal4wheel.com
- **SEPT. 5-7:** Kansas Rocks open for Labor Day, Kansas Rocks Recreation Park, Mapleton, KS. Info: ksrockspark.com
- **SEPT. 12:** Tough Truck Competition by Roadside 4 Wheelers, Lions Park, Mazomanie, WI. Info: 608.767.4080, email johnngeewhiz@gmail.com
- **SEPT. 12:** Kansas Krawl at Kansas Rocks Recreation Park, Mapleton, KS. Info: ksrockspark.com
- **SEPT. 17-19:** Catskill Mountains Jeep Jamboree, Monticello, NY. Info: jeepjamboreeusa.com
- **SEPT. 18-19:** Stadium Supertrucks race, Southern California. Info: stadiumsupertrucks.com
- **SEPT. 19:** Off-Road 101 Course, Kansas Rocks Recreation Park, Mapleton, KS. Info: ksrockspark.com
- **SEPT. 23-26:** Oklahoma Classic Bronco Round-up, Hot Springs ORV Park, Hot Springs, AR. Info: okclassicbronzos.net, orvpark.com
- **SEPT. 24-26:** Black Hills Jeep Jamboree, Deadwood, SD. Info: jeepjamboreeusa.com
- **SEPT. 24-27:** SCORE Imperial Valley 250 desert race, Plaster City, CA. Info: score-international.com
- **SEPT. 26:** Adopt-a-Trail Day, Kansas Rocks Recreation Park, Mapleton, KS. Info: ksrockspark.com
- **SEPT. 26-27:** Off-Road Driving School (with peak fall colors!), Iron Range OHV Park, near Minneapolis/St. Paul, MN. Info: ironrangeoffroad.com
- **SEPT. 27:** Getting Started Off-Road Driving Clinic by Badlands Off-Road Adventures, Mojave, CA. Info: 310.374.8047, 4x4training.com
- **NOTE:** If you have a 4WD event you want us to publicize, please send the date, location, a description of the event, and contact info—phone numbers and/or email/website address—to Calendar, 4-Wheel & Off-Road magazine, 831 S. Douglas St., El Segundo, CA 90245; fax 310.566.8501; email 4wheeloffroad@enthusiastnetwork.com. Please submit your info at least four months in advance of the event due to our press lead times. 📧

**SOME SEE A MOUNTAIN
I SEE A RACECOURSE.**

OPTIMABATTERIES.COM



Lucas Murphy

LUCAS MURPHY
COMPETITIVE ROCK CRAWLER & RACER
OWNER OF MURPHY'S LAW MOTORSPORTS

WOLF SQUAD

15X MORE
VIBRATION
RESISTANT

**SPILLPROOF
SIX-PACK
DESIGN**



**YELLOWTOP® | THE ULTIMATE
TOUGHER-THAN-THE-TERRAIN BATTERY**

OPTIMA
BATTERIES
THE ULTIMATE POWER SOURCE™

LOOK FOR THE SIX-PACK™ DESIGN ON OPTIMA® YELLOWTOP®, REDTOP® AND BLUETOP® BATTERIES AT A RETAILER NEAR YOU.

The OPTIMA logo, OPTIMA Batteries, The Ultimate Power Source, Spiralcell Technology, YELLOWTOP, REDTOP, BLUETOP and The Six-Pack Battery Design are trademarks of Johnson Controls, Inc. ©2015

Johnson
Controls



MONSTER ENERGY LIMITED EDITION

539BM

GLOSS BLACK W/ CNC MILLED ACCENTS, GREEN MONSTER M-CLAW LOGO AND BLACK LIP EDGE ACCENTS

20x9 +18
20x10 -25
20x12 -44
22x12 -44

MASSIVE LIP DEPTHS UP TO 6.5"!



538MB

GLOSS BLACK W/ MIRROR MACHINED FACE AND CHROME T-STAR CAP

17x9 -12
18x9 -12, +18
20x9 -12, +18
20x10 -19
20x12 -44

MASSIVE LIP DEPTHS UP TO 8"!



534B

18x9 +00, +10, +18
20x9 +00, +18
20x10 -19
20x12 -44 & 22x12 -44

SATIN BLACK W/ CHROME BOLT ACCENTS AND CHROME T-STAR CAP

535MB

17x9 -12
18x9 -12, +00, +10, +18
20x9 -12, +00, +18
20x12 & 22x12 -44

GLOSS BLACK W/ MIRROR MACHINED FACE AND CHROME T-STAR CAP

535V

17x9 -12
18x9 -12, +00, +10, +18
20x9 -12, +00, +18
20x12 & 22x12 -44

BRIGHT PVD- DURABLE ALL-WEATHER SYNTHETIC CHROME

535B

17x9 -12
18x9 -12, +00, +10, +18
20x9 -12, +00, +18
20x12 & 22x12 -44

SATIN BLACK W/ CNC MILLED LIP ACCENTS AND CHROME T-STAR CAP



OFFROAD WHEELS



DEEP CONCAVE



DEEPLIP



647BM

SATIN BLACK W/ CNC MILLED ACCENTS AND CHROME D-STAR CAP

17x9 -12

18x9 +00, +10, +18

20x9 -12, +00, +18

22x9.5 +18



MONSTER ENERGY LIMITED EDITION

648MB | 648B

GLOSS BLACK W/ MIRROR MACHINED ACCENTS, GREEN MONSTER M-CLAW LOGO AND CHROME LIP EDGE BOLTS

SATIN BLACK W/ GREEN MONSTER M-CLAW CAP AND MATCHING MONSTER GREEN LIP EDGE BOLTS

20x9 +00, +18 / 20x10 -25

22x9.5 +18



646MB

18x9 +00, +10, +18

20x9 +10, +18

20x10 -19

GLOSS BLACK WITH MIRROR MACHINED FACE AND CHROME D-STAR CAP

645MB

17x9 -12

18x9 -12, +00, +10, +18

20x9 +00, +18

20x10 -19

GLOSS BLACK W/ MIRROR MACHINED FACE AND CHROME D-STAR CAP

645B

17x9 -12

18x9 -12, +00, +10, +18

20x9 +00, +18

20x10 -19

SATIN BLACK W/ CNC MILLED LIP ACCENTS AND CHROME D-STAR CAP

645V

17x9 -12

18x9 -12, +00, +10, +18

20x9 +00, +18

20x10 -19

BRIGHT PVD- DURABLE ALL-WEATHER SYNTHETIC CHROME

TISWHEELS.COM | DROPTARS.COM

ATD Wheels.com f /ATDWHEELS t #ATDWHEELS @ATDWHEELS

ALL WHEELS PATENT PENDING | ©2015 TIS INDUSTRIES, LLC ALL RIGHTS RESERVED

DROPTARS
OFFROAD



TOOL TIME

TOOLS TO MAKE YOUR LIFE EASIER

By Harry Wagner
PHOTOGRAPHY COURTESY OF THE MANUFACTURERS

OPPOSABLE THUMBS AND huge frontal lobes are great, but one of the key attributes that make man King of the Jungle is his use of tools. We have progressed beyond sticks and fire, and several tools on the market can make your life much easier in the garage and on the trail. While the tools in this guide vary wildly in price, the one thing that they all have in common is they provide you with the opportunity to learn more about your rig and save money compared to paying someone else for labor. Whether you are a professional fabricator or just learning how to change your own oil, there is something for you in this guide.

1 MILLER SYNCROWAVE 210 WELDER

Ideal for any type of welding on your 4x4, whether you are a professional or hobbyist, the inverter-based Syncrowave 210 supports, TIG, MIG, and stick welding processes in one machine. The Syncrowave 210 can weld up to ¼-inch-thick material in a single pass and is now available as a complete package with a Spoolmate 100 spool gun. **INFORMATION:** Miller Electric, 920.734.9821, millerwelds.com.

2 SUMMIT RACING EQUIPMENT ENGINE STAND

A Summit engine stand will hold your engine steady while you're working on it. They are available in 1,000- and 1,250-pound capacities, both featuring a 360-degree rotating head. One model is even available with a 63:1-ratio-gear head to make engine rotating a breeze. **INFORMATION:** Summit Racing Equipment, 800.230.3030, summitracing.com.

3 CRAFTSMAN LOCKING ADJUSTABLE WRENCH

The 10-inch Craftsman Extreme GRIP Locking Adjustable Wrench includes a locking mechanism that provides maximum gripping force in working with fasteners. The lock offers over twice the gripping power on rounded fasteners compared to a standard adjustable wrench. Equipped with adjustable wrench jaws that open up to 1 inch, they fit nearly every fastener on your 4x4. **INFORMATION:** Craftsman, 800.349.4358, craftsman.com.

4 PITTSBURGH 4-TON FLOOR JACK

This 4-ton steel floor jack features a lifting range from 4 to 20½ inches to elevate your 4x4 in only 3½ pumps! A protective foam bumper on the floor jack keeps your vehicle or materials from being damaged while lifting or lowering. With a knurled aluminum handle for a steady grip and solid, welded steel construction, this rapid pump floor jack is built for comfort and heavy use. **INFORMATION:** Harbor Freight Tools, 800.423.2567, harborfreight.com.

5 EASTWOOD PRO FORMING TUBING BENDER

The Eastwood Pro Former Tubing bender lets you bend steel and chromoly tubing in diameters from ¾ to 1¾ inches. The ridged steel frame construction and 8-ton forming jack offer a sturdy, reliable base that will not move across the bench when in use. Steel forming dies and cast followers offer accurate bends without flattening or deforming the edges. **INFORMATION:** Eastwood, 800.343.9353, eastwood.com.



Be Prepared.

You never know what the trail will throw at you. Be ready for anything with a lift kit and bigger tires, recovery gear, and underbody armor. The pros at Summit Racing Equipment will help you pick the right products and ship them the same-day so you can get back out there fast.

Rely on us to answer your questions and recommend solutions 24/7.



ELIGIBLE FOR
**FREE
SHIPPING!**



MM-366 Wheels

Rugged Styling!

Keyword: MTT MM-366

as low as / \$220.03 each



ELIGIBLE FOR
**FREE
SHIPPING!**



Arctic Fridge/Freezer

Keeps Food Cold Anywhere!

Keyword: SMT Arctic

SMT-2789 / \$724.99 each



Level Lift Suspension Systems

Affordable Leveling for Your Rig!

Keyword: EXP Level Lifts

as low as / \$125.99 kit

SPICER®

MADE
IN THE
USA

ELIGIBLE FOR
**FREE
SHIPPING!**



Ring and Pinion Gears

Outstanding Quality for Long Life!

Keyword: SDH Ring Pinion

as low as / \$199.97 set

SUPERWINCH®

ELIGIBLE FOR
**FREE
SHIPPING!**



Tiger Shark 9500 Winch

Weather-Proof Pulling Power!

Keyword: SPW Tiger 9500

SPW-1595200 / \$349.99 each

**FREE
STANDARD
SHIPPING!**

on orders over \$99!
Details at SummitRacing.com

POWERSTOP®

ELIGIBLE FOR
**FREE
SHIPPING!**



1-Click Brake Kits

Solve Stopping Problems!

Keyword: PWR Click Truck

as low as / \$125.97 kit



POWERSTEP™

Automated Truck Step Kits

Extend Instantly When

You Open the Door!

Keyword: MPA PowerSteps

as low as / \$1,199.00 kit

MADE
IN THE
USA

ELIGIBLE FOR
**FREE
SHIPPING!**



LED Auxiliary Lights

Illuminate Your Nights!

Keyword: SUM LED Auxiliary

as low as / \$109.97 pair

Expert Advice • Huge Inventory • Fast Delivery • World-Class Customer Service

1.800.230.3030 • Tech: 1.330.630.0240 • Int'l: 1.330.630.0230

Call by 10 pm EST: In-Stock Parts Shipped That Day!

Find it at **SummitRacing.com®**

Prices good through 9/1/15 • Typographical, description, or photography errors are subject to correction. Some parts are not legal for use in California or other states with similar laws/regulations. Please check your state and/or local laws/regulations. ©2015 AUTOSALES, INC. SCode: 1510FR





Baja RS

\$299 per seat

- Reclining Suspension Technology
- Unmatched Comfort & Support
- Direct bolt-in to CJ & YJ Jeeps®
- Will fit in any other vehicle with Corbeau custom brackets



GTS II



\$369

Sport Seat



\$299

Baja XP



\$299

Moab



\$239

CR1



\$399

Sportline RRS



\$475

Harness Belts



\$85 - \$149

Baja XRS



\$369

TOOL TIME

6



7



6 WARN PULLZALL

Whether you are in the shop or at a remote location, the Warn PullZAll provides you with the mechanical muscle you need to pull a broken frame back together or unload that heavy axle you scored at the wrecking yard. Lift or pull 1,000 pounds with a portable tool that weighs only 18 pounds. Available in both corded or cordless models and now a cordless camo version! **INFORMATION:** Warn Industries, 800.543.9276, warn.com.

7 SMITTYBILT TORX DRIVER

Don't be stuck again driving around with bulky tool sets that don't even fit the hardware on your 4x4. Smittybilt's nine-piece Torx Multitool Kit offers all you would need in one tool kit. This is just the perfect size to store in the back of your Jeep for those unforeseen times when you need to access the pesky torx bolts. This is a perfect on-road/off-road tool kit. **INFORMATION:** Smittybilt, 888.717.5797, smittybilt.com.

8 MILWAUKEE M18 FUEL 1/2-INCH DRIVE IMPACT WRENCH

The Milwaukee M18 FUEL 1/2-inch High Torque Impact Wrench is the most powerful cordless wrench in its class, delivering true pneumatic performance without the hassle of a compressor and hose. With up to 700 lb-ft of maximum fastening torque, 1,100 lb-ft of nut-busting torque, up to twice the runtime, and a proprietary Drive Control feature, the M18 provides unmatched performance, durability, and



8



9



10

versatility. **INFORMATION:** Milwaukee Tool, 800.SAWDUST, milwaukeetool.com.

9 HTP QUICK SPOT II

With the HTP Quick Spot II anyone can make factory-looking spot welds quickly, easily, and affordably. This 220-volt tool produces 6,000 amps, making panel repairs a snap. The Quick Spot II welds with virtually no warpage, and finishing work is minimized because no metal is added in the welding process. With the microprocessor technology, you select the thickness of the panels you're welding and squeeze the handles together, and the Quick Spot does the rest. **INFORMATION:** HTP America, 800.USA.WELD, usaweld.com.

10 EASTWOOD 8-INCH VISE

A vise bolted solidly to a bench is the cornerstone from which a workshop is built. Eastwood's 8-inch industrial quality, ductile iron vise is as solid as they come. It features a lockable swivel mount, 8-inch wide jaws, and an anvil body. The handles and screw are chrome plated, and the rest of the vise is a durable blue, so it will continue to look good for many years of service. **INFORMATION:** Eastwood, 800.343.9353, eastwood.com.

4WHEELOFFROAD.COM

ZONE

OFFROAD PRODUCTS

Better Products. Better Prices.



FORD

05-13 FORD F250 & F350

LIFT	DESCRIPTION	PRICE
6"	Radius Arm Kit w/shocks	\$1374.95
4"	Radius Arm Kit w/shocks	\$1055.95
4"	4WD w/shocks	\$799.95
2"	Leveling Kit	\$99.99
1"	Budget Boost	\$69.99



6" Radius Arm Kit

99-04 FORD F250 & F350

4"	4WD Lift w/shocks	\$809.95
2.5"	Leveling Kit	\$295.95
1"	Front Shackles	\$74.95
1-4"	Adjustable Track Bar	\$99.95

FORD F-150

6"	09-13 4WD w/shocks	\$1549.95
2"	09-13 Leveling Kit	\$99.95
6"	09-13 2WD w/shocks	\$1399.95
2"	09-13 Lift Kit	\$169.95
6"	04-08 4WD w/shocks	\$1399.95
4"	04-08 4WD w/shocks	\$1299.95
2"	04-08 Lift Kit	\$169.95
2"	04-08 Leveling Kit	\$81.95
3"	04-05 Body Lift	\$365.95
6"	97-03 4WD w/shocks	\$1295.95
2"	97-03 Leveling Kit	\$99.95
4"	97-03 Combo Lift	\$279.95
2"	97-03 Lift Kit	\$159.95
3"	97-03 Body Lift	\$199.95
2"	97-03 Body Lift	\$187.95



New 6" & 8" Systems **ONLY \$1329.95**



TOYOTA

LIFT	DESCRIPTION	PRICE
5"	07-13 Tundra w/shocks	\$1299.94
3"	07-13 Tundra Leveling Kit	\$99.95
3"	07-13 Tundra Lift Kit	\$169.95
6"	05-12 Tacoma Suspension Lift	\$1249.95
4"	05-12 Tacoma Suspension Lift	\$1195.95
2.5"	05-11 Tacoma Leveling Kit	\$99.95
2.5"	07-11 FJ Cruiser Lift Kit	\$229.95

Also Offering
A Full-Line of
JEEP Products!



DODGE

DODGE 1500 4WD

LIFT	DESCRIPTION	PRICE
6"	2013-2014 4WD w/shocks	\$1519.95
4"	2013-2014 4WD w/shocks	\$1409.95
6"	2012 4WD w/shocks	\$1519.95
4"	2012 4WD w/shocks	\$1409.95
6"	09-11 4WD w/shocks	\$1699.95
4"	09-11 4WD w/shocks	\$1599.95
6"	06-08 4WD w/shocks	\$1295.95
4"	06-08 4WD w/shocks	\$1249.95
5"	94-01 4WD w/shocks NEW	\$839.95
2.5"	94-01 Lift Kit	\$179.95
2.5"	94-01 Leveling Kit	\$99.95
3"	06-08 Body Lift	\$355.95
5"	02-05 4WD w/shocks	\$1195.95
2"	02-05 Leveling Kit	\$99.95

DODGE 2500/3500 4WD

8"	03-12 4WD w/shocks	\$1329.95
6"	03-12 4WD w/shocks	\$1105.95
5"	10-12 4WD w/shocks	\$912.81
5"	03-09 4WD w/shocks	\$770.95
5"	94-02 4WD w/shocks NEW	\$839.95
2.5"	94-12 Leveling Kit	\$99.95



CHEVY

11-13 2500 HD & 3500

LIFT	DESCRIPTION	PRICE
5"	2/4WD Lift w/shocks	\$1399.95
2"	Torsion Bar Leveling Kit	\$99.95
	Shock Relocation Kit	\$19.95

01-10 CHEVY 2500 HD & 3500

6"	2WD/4WD Lift Kit w/shocks	\$1295.95
2"	Lift Kit	\$159.95
2"	Torsion Keys	\$99.95
	Shock Relocation Kit	\$30.00

07-14 CHEVY 1500

4.5 & 6.5"	4WD Lift w/shocks	\$1295.95
4.5 & 6.5"	2WD Lift w/shocks	\$999.95
3.5"	2WD/4WD Combo Lift	\$199.95
2"	Lift Kit	\$129.95
2"	Leveling Kit	\$69.95
3"	Body Lift	\$374.95
1.5"	Body Lift	\$149.95

99-06 CHEVY 1500 4WD

6"	4WD Lift w/shocks	\$1299.95
3.5"	Combo Lift	\$249.95
2"	Lift Kit	\$149.95
2"	Torsion Keys	\$99.95
3"	Body Lift	starting @ \$307.95
1.5"	Body Lift	starting @ \$159.95

88-98 CHEVY 1500 4WD

6"	4WD Lift w/shocks	\$1195.95
2"	Lift Kit	\$149.95
2"	Torsion Keys	\$99.95
3"	Body Lift	starting @ \$176.95

73-87 CHEVY 1/2 & 3/4 TON PICKUP & 73-91 1/2 & 3/4 TON BLAZER, JIMMY, SUBURBAN

6"	4WD Lift w/shocks	\$599.95
4"	4WD Lift w/shocks	\$499.95

04-12 COLORADO/CANYON

2"	Leveling Kit	\$99.95
2"	Lift Kit	\$149.95

07-14 SUBURBAN/TAHOE/YUKON

6.5"	4WD Lift w/shocks	\$1739.99
4"	Combo Lift	\$379.95
2"	Leveling Kit	\$69.95
2"	Body Lift	\$319.99

92-06 SUBURBAN/TAHOE/YUKON

6.5"	00-06 4WD Lift w/shocks	\$1679.95
2"	92-06 Torsion Bar Keys	\$99.99
2"	92-98 Lift Kit	\$149.99
3"	00-06 Body Lift	\$339.95
3"	92-98 Body Lift	\$199.99



zoneoffroad.com
888-998-9663



Learn more about the Factory Protection Plus Program at **560plus.com**

D113Z

TOOL TIME



11



12



13



14

JBA

performance exhaust

Headers & Exhaust Systems
available for your Truck or SUV!
Chevrolet • Dodge • Ford • GMC
Jeep • Nissan • Toyota

JBA Cat4Ward Headers

- High Quality Stainless Steel Construction
- Optional silver or titanium ceramic coating
- Heavy Duty .375" flanges
- 1.625" primary tubes
- JBA Firecone® collector
- High quality hardware and gaskets

JBA Performance Exhaust Systems

- Large diameter mandrel-bent tubing
- Stainless steel high flow muffler(s)
- High quality hardware kits included
- Polished chrome stainless steel tip
- Factory style hangers

JBA PowerCable Ignition Wires



- Extra thick diameters
- 100% silicone jackets
- Ultra low resistance design
- Wire wound mag conductors
- Custom tailored lengths w/ I.D.'s

JBA Equipped
D.A.C. Pre-Runner

www.jbaheaders.com

A PerTronix Performance Brand

(909) 599-5955

11 U.S. GENERAL TOOL CHEST

This tool cabinet has 13 drawers to store all of your tools and accessories, and rolls easily to your work area. The heavy-duty industrial steel cabinetry has internally welded joints to provide durability for years to come. The ball bearing slides, powdercoated finish, 5-inch casters, and 2,633-pound load capacity are features typically found in rolling tool cabinets that cost much more. **INFORMATION:** Harbor Freight Tools, 800.423.2567, harborfreight.com.

12 SUMMIT RACING EQUIPMENT PARTS WASHER

Versatile and tough enough for both professionals and do-it-yourselfers, Summit Parts Washers are built from heavy-duty steel and feature fully adjustable flexible nozzles, 30-gph solvent pumps, and reliable 120-volt motors. For use with water-based cleaners only. **INFORMATION:** Summit Racing Equipment, 800.230.3030, summitracing.com.

13 MILLER DIGITAL ELITE HELMETS

Miller recently released two new graphics to the Digital Elite Series Helmet lineup: Blue Flame and Hot Rod Garage. The helmets feature a 9.22-square-inch viewing area, four operating modes, four arc sensors for superior lens response, and an automatic on/off power control that triggers the lens at the strike of an arc. **INFORMATION:** Miller Electric, 920.734.9821, millerwelds.com.



14 PIPEMASTER

The PipeMaster is one of those “why didn’t I think of that?” tools. The PipeMaster utilizes steel pins that contour to the shape desired, which can be transferred to the work piece with a grease pencil or marker. These timesavers are available in a variety of diameters and will easily pay for themselves when you’re fitting tube together. The PipeMaster simply slips over a tube or can be used freehand, and presses against the desired shape. **INFORMATION:** PipeMaster, 360.668.3291, pipemastertools.com.

15 LEATHERMAN CRUNCH

Locking pliers that fold away make the Leatherman Crunch unlike any multitool available today. The Crunch clamps up to a 1-inch-diameter tube, and if you remove the adjusting screw you’ll find a hex-bit adapter built right in. With 15 tools, including locking blades that release with the push of a button, the Crunch will take a bite out of any job. **INFORMATION:** Leatherman, 800.847.8665, leatherman.com.

16 POWERTANK DIGITAL TIRE INFLATOR

The Powertank PRO Series Digital Gauge is six times more accurate than traditional analog gauges. It features a 5- to 150-psi range, shock-resistant construction, and large numbers with a blue backlight that is easy to read. The clip-on chuck and 24-inch SuperFlex hose make airing up safe and convenient. **INFORMATION:** Powertank, 209.366.2163, powertank.com.

4WHEELOFFROAD.COM

WHEN YOU PUSH THE LIMITS ZEON PLATINUM PULLS YOU THROUGH



Winching has a new gold standard: the WARN® ZEON Platinum™ winch.

It’s built for those who push the limits—with double the durability, 20% faster line speed, and extreme IP68-rated waterproofing. The Advanced Wireless Remote controls not only the winch, but also the clutch and other accessories. With a 10- or 12,000 lb. capacity ZEON Platinum winch, you’ll go places others only dream about.



**ADVANCED
WIRELESS CONTROL**
*Sophisticated smart
device controls the winch,
and much more.*

REMOTE CLUTCH
*The only winch today with
the advanced remote
controlled clutch*



GO TO WARN.COM TO LEARN MORE.

17 CRAFTSMAN 3/8-INCH DRIVE THIN-PROFILE RATCHET

Never one to stop innovating, Craftsman has upgraded its previous 60-tooth full polish ratchet to 84 teeth. The higher tooth count and thin-profile head design allow a user to work in tight spaces. This ratchet also features a quick-release button and a reverse lever, allowing you to work more efficiently and exchange sockets with ease. Full polish surfaces allow for ease of cleaning after the job is done. **INFORMATION:** Craftsman, 800.349.4358, craftsman.com.



18 SMITTYBILT LED LIGHT

Smittybilt's integrated optical glovebox lights are used to shape its radiation pattern and assist in reflection. It features lower energy consumption, longer life-time, improved robustness, smaller size, faster switching, and greater durability. A heavy-duty magnet allows you to mount it in any unusual places. Uses three AAA batteries (included). **INFORMATION:** Smittybilt, 888.717.5797, smittybilt.com.



19 YUKON GEAR & AXLE BEARING PULLER

Whether you're setting up ring-and-pinion gears or doing general differential repair, life is easier with Yukon's carrier bearing pullers. These tools work with an impact gun to quickly and safely remove your carrier bearings while minimizing the risk of costly damage. These pullers come with a handy bench top-stand and work on most standard-size carrier bearings and pinion bearings on differentials. **INFORMATION:** Yukon Gear & Axle, 888.905.5044, yukongear.com.



20 MAC'S PIVOT PLATE

Mac's Pivot Plate bolts to your engine's intake manifold and has an arm to allow a complete V-8 engine and transmission to tilt up to a 35-degree angle to ease installation and removal from tight engine compartments without scratching paint. The Pivot Plate also allows mechanics to quickly and safely perform engine and transmission swaps, realign the engine dowel pins to the transmission, or perform alignment of engine and transmission mounts in a fraction of the time other methods would take. **INFORMATION:** Mac's Custom Tie-Downs, 800-666-1586, macstiedowns.com.

ential Spreader can be used to open the housing casting to add extra shims. As a part of ARB's Air Locker Tools range of differential service/installation equipment, this specialty tool offers an easy, quick, and effective way of preloading axles. **INFORMATION:** ARB USA, 866.293.9078, arbusa.com.

21 POLY PERFORMANCE NITROGEN KIT

The Poly Performance Nitrogen Kit is a great way to tune your shocks in the shop or at the trail, all in one convenient kit. This portable nitrogen kit comes with the essential tools to accurately adjust and recharge rebuildable shocks, air shocks, and hydraulic bumpstops. **INFORMATION:** Poly Performance, 805.783.2060, polyperformance.com.

22 ARB DIFF CASE SPREADER

Most common axle assemblies require the use of a differential spreader in order to achieve the proper carrier bearing preload during setup. ARB's Air Locker Differ-

23 TORCHMATE 2X2 CNC PLASMA TABLE

Everyone knew the time would come when fabricators would look at CNC technology as an affordable tool, like a tube bender or drill press, rather than some exotic tool that is out of their reach. That time is now. Torchmate's new 2x2 CNC Prototyping System was created specifically for the small fabrication shop and home fabricator. It is designed to be versatile, mobile, and easy to use. **INFORMATION:** Torchmate CNC Cutting Systems, 775.673.2200, torchmate.com.

IT'S TIME TO TURN PRO.

INTRODUCING THE NEW COOPER DISCOVERER STT PRO.

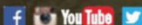


When the mud gets thick, the hills get steep and the going gets tough, it takes a pro to navigate through. That's where the Cooper Discoverer STT Pro comes in. The next generation of our most popular off-road tire is engineered for serious traction, treadwear and toughness over even the most challenging terrain. And with an aggressive new sidewall design, it looks as great as it performs.



COOPERTIRES

coopertire.com | follow us



Jeep® is a registered trademark of FCA US LLC.





24



25



26

IDI DIT

My Way



Retrofit 1974-79 Bronco

- 100% American Made
- Ford splined top shaft, 8-position tilt, Ford turn signal switch pre-welded dash mount, Ford wiring connectors, Ford style knobs & levers, & 4-way flashers included.
- Floor shift & column shift available in paintable steel, chrome, black powder coated finishes.

VISIT OUR WEBSITE FOR FULL PRODUCT LISTINGS
517-424-0577 WWW.IDIDITINC.COM



24 QUICKJACK PORTABLE JACK

Ranger Products, a division of BendPak, recently introduced the BL-50000 Quick-Jack portable jack system to make vehicle maintenance convenient and lightning-fast. The 5,000-pound-capacity lightweight QuickJack can go virtually anywhere and can be easily stored when not in use. Simply position the lightweight jack frames under the vehicle, and in less than a minute the entire vehicle is almost 2 feet off the ground ready for tire changes, chassis tuning, or other maintenance. The QuickJack collapses to a low 3-inch profile so it fits where other jacks don't. **INFORMATION:** Quick-Jack, 888.262.3880, quickjack.com.

25 MILWAUKEE M12 1/4-INCH DRIVE RATCHET

The Milwaukee M12 1/4-inch Ratchet not only provides a compact, battery-powered solution for one of the most widely used handtools in the world but also presents a clear and effective solution for users who are frustrated with the hassles of using pneumatic tools. At only 10 3/4 inches long and weighing 1.9 pounds, the M12 has a compact, 3/4-inch, low-profile head to allow users to work in the tightest of spaces and engine bays. **INFORMATION:** Milwaukee Tool, 800.SAWDUST, milwaukeetool.com.

26 EASTWOOD 20-INCH OFFSET SHEET METAL BRAKE

The Eastwood Versa Bend 20-Inch Offset Sheet Metal Brake is a precision-engineered metalworking tool designed to produce both standard variable length bends as well as accurate 1/2-inch offset bends up to 90 degrees in 20-gauge sheet steel and 18-gauge aluminum in widths up to 20 inches. Create floor reinforcement channels and ribs, sections of corrugated pickup bed floors, truck bedside panels, inner fender structures, and much more, all with one convenient vise- or bench-mounted tool. **INFORMATION:** Eastwood, 800.343.9353, eastwood.com. 

Desert Rat Credit!
Financing! Apply On-Line



- Generous Credit Lines
- Instant, On-Line Approval
- Low Monthly Payments

www.DesertRat.com

NIGHT STALKER LED Lighting

Compact & Powerful, Desert Rat LED lighting draws only a fraction of the power needed to run conventional bulbs, but they out power & out perform lights twice the size, costing twice the price!

Nova Star
80 Watt Light
7" Diameter Extreme Duty
Save \$50 on a pair.

Sale!

NOW 2-For \$349.96
Regular \$199 ea

3 + 3 LED 18 Watt
1620 Lumen Compact
3"x3" Size Spot Beam

\$99.99 ea.

NIGHT STALKER LED Light Bars

Premium 2-Row LED Bar

- Genuine CREE LED's
- Cast Aluminum Housing
- Combo Spot & Flood Beam

SALE

7.5"	36 Watt	Was \$119.99	Now \$99.99
13.5"	72 Watt	Was \$199.99	\$179.99
21.5"	120 Watt	Was \$259.99	\$234.99
31.5"	180 Watt	Was \$389.99	\$349.99
41.5"	240 Watt	Was \$489.99	\$439.99
50"	288 Watt	Was \$599.99	\$539.99

NEW! Curved LED Lightbars



30"	180 Watt	Was \$499.99	Now \$399.99
40"	240 Watt	599.99	479.99
50"	288 Watt	699.99	559.99
54"	312 Watt	849.99	779.99

Compare at up to \$1,500.00

DRX Series WINCHES

9500, 8000, & 12,000 Lb

Shipped FREE!

Wire Rope:
Roller Fairlead
Clevis Hook
Hand held remote

Synthetic Rope:
Aluminum Fairlead
Heavy Duty Hook
Hand Held Remote

DRX8000 \$289.99
8,000 LB

DRX9500 \$329.99
9,500 LB

DRX9500S \$429.99
Synthetic 9,500 LB

DRX12000 \$399.99
12,000 LB

Tucson
7107 E. 22nd Street
(520) 296-1200

Tucson
3705 S. Palo Verde Blvd.
(520) 790-8502

Tempe
4453 S. Rural Rd.
(480) 838-7800

Mesa
1045 W. Broadway
(480) 833-7300

Phoenix
10701 N. 19th Ave.
(602) 973-9697

Phoenix
2421 E. Bell Road
(602) 404-2244

Albuquerque
5401 San Mateo NE
(505) 881-0931

BFGoodrich
Tires



BFG KM2 on XD Addict Black

35/12.50 R17	on 17x9	\$1930.88
305/65 R17	on 17x9	1911.88
35/12.50 R18	on 18x9	2425.88
37/12.50 R18	on 18x9	2928.88
37/12.50 R17	on 17x9	2254.88

TOYO TIRES



Toyo Open Country M/T on Tracker II Black

33/12.50R15	on 15x10	\$1519.88
285/75R16	on 16x8.5	1565.88
285/75R17	on 17x8.5	1915.88
35/12.50R17	on 17x8.5	1899.88

TOYO TIRES



Toyo Open Country AT2 on Moab STR Black

285/70 R17E	on 17x8.5	\$1415.88
285/70 R17C	on 17x8.5	1265.88
35/12.50 R17	on 17x8.5	1608.88
285/65 R18	on 18x9	1599.88
35/12.50 R18	on 18x9	1759.88

Desert Rat
off road centers
www.DesertRat.com
TOLL FREE 1-800-528-3402



M/T ATZP3 on Method Racing 301

285/70R17	on 17X8.5	\$1799.98
315/70R17	on 17X8.5	1969.98
275/70R18	on 18X9	2113.98
305/55R20	on 20X9	2359.98



M/T MTZ on Moab STR Black/Machined

285/75R16	on 16x8.5	\$1436.98
285/70R17	on 17x9	1778.98
315/70R17	on 17x9	1749.98
305/70R18	on 18x9	2205.98

BFGoodrich
Tires

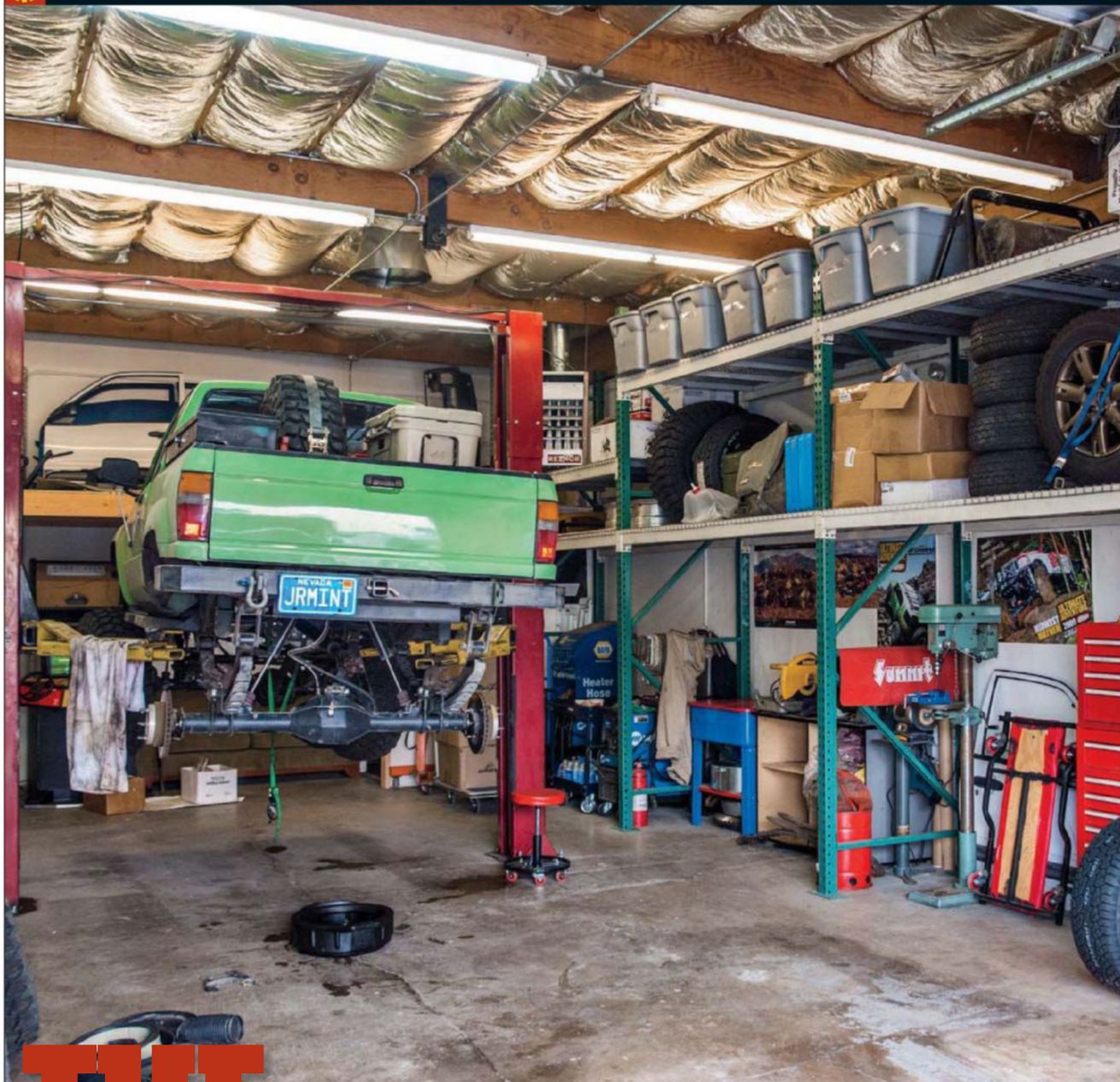


BFG A/T K02 on Tracker II Black

285/75R16	on 16x8	\$1162.88
275/70R17	on 17x9	1185.88
285/65R18	on 18x9	1501.88
35/12.50R18	on 18x9	1688.88
285/65R20	on 20x9	2042.88

***More New K02 Sizes Coming Soon!**

All prices subject to change, check our website for the most current prices.



THE NEXT LEVEL

By Harry Wagner
PHOTOGRAPHY HARRY WAGNER

SOONER OR LATER YOU WILL encounter the same problem we did. Your garage will be too small for all your projects (or your only project). We dreamed of moving out of town to a house with lots of land and a big shop or barn to house all of our projects. After years of dreaming though, it is still just a dream. It might have something to do with our buying another project vehicle every time we have spare money in our pocket, which makes the

issue of space worse rather than better.

While we still hold on to our dream of the house in the country with the giant shop, in the meantime we have settled for a much more realistic solution: renting shop space in town with a friend. The shop we rented is a modest 900 square feet, but it has a lot going for it. The rent is reasonable and the location is in the industrial part of town close to auto parts and welding supply shops, where they don't mind the sounds of cutting and grinding or a little oil leak here or there. As a bonus, now that the yard art has disappeared at home, our neighbors have even started to wave at us instead of scowling.

WHAT TO DO WHEN YOUR GARAGE IS TOO SMALL

GET SERIOUS.

YOU HAVE THE SKILLS. GET THE EQUIPMENT TO MATCH.

Item
#20362

SALE!
\$1599⁹⁹*

Item
#20189



**PLUS FREE
XTRA LARGE VIEW
WELDING HELMET!****
\$120 VALUE!

THE SERIOUS FABRICATOR'S KIT:

MIG 250 WELDER

- 120 or 240VAC – can be run off a generator
- Lightweight Inverter Technology = True Portability
- Duty Cycle – 60% @ 250amps
- 4" or 8" spool capability

**WELD UP TO
1/2" PLATE!**

VERSA-CUT 60 PLASMA CUTTER

- 220v AC input
- Cuts Steel, Stainless and Aluminum from 24-gauge to 7/8"

**SLICES THROUGH
7/8" MATERIAL!**

EASTWOOD MULTI-UNIT WELDING CART



DO THE JOB RIGHT.
800-343-9353

OFFICIAL TOOL
SPONSOR: **4WHEEL** TECH
CENTER

For More Info on the MIG 250 & Versa-Cut 60:
www.eastwood.com/4W1015

*All deals in this ad expire 10/31/2015. Cannot be combined with other offers.
**Free item will not appear in cart and will ship separately. Other exclusions may apply.



1



4



2



3



5



6



7

1 This space looked so big when it was only holding our truck, but it filled up quickly as we added tools, equipment, and the spare parts from all of our projects. While we suggest that you look for deals on tools, have a plan for what you intend to use your space for so it doesn't get filled with items you will never use.

2 Our first stop was to the local salvage store to buy used pallet racking. Since they have different racking in stock at any given time, we wanted to ensure that we bought enough for our shop the first time. It wasn't cheap, but the racking is strong and freed up a lot of storage space.

3 We bought these metal cabinets used; you can find them on Craigslist fairly regularly. They are great for storing and organizing all of your paint and fluids. Having consumables like gear oil and grease on hand means that you will spend less time running to the parts store.

4 You can get most jobs done with a floor jack and jackstands, but adding a two-post lift makes nearly every task easier. We scored a deal on this Amco lift from a local mechanic that was closing up shop. Four-post lifts are great for exhaust work, but you cannot easily remove axles or wheels like you can with a two-post lift. We situated the lift towards the back of the shop and spaced it wide enough to fit full-size trucks but still narrow enough that we can move equipment around each side of the lift.

5 The difference between expensive air tools and inexpensive air tools is often the volume of air necessary to run them. If you buy a high-volume compressor like this upright Husky two-stage compressor, it will put out enough air to run any tools. We thought about building a "dog house" around the compressor to cut down on noise, but it has not been loud enough for us to bother.

6 If you like ice cream as much as we do, now you have an excuse. These Talenti containers make excellent hardware storage with their clear plastic construction and threaded lids. We never throw any hardware away, whether it is screws, nuts, bolts, or washers. You never know what you might need for a future project.

7 Keeping your tools organized is a big time saver. We bought this 44-inch, 13-drawer U.S. General toolbox from Harbor Freight Tools when it was on sale. It was bigger than we thought we needed, but we filled it up quickly with tools, so we added an eight-drawer chest to the top of the toolbox. Although it is on wheels, we rarely move it around the shop.

TOP TOOLS FOR GEAR WORK

- Bearing puller
- Calipers
- Case spreader
- Dial indicator
- Hydraulic press
- Mallet
- Parts washer

TOP TOOLS FOR FABRICATION

- Band saw
- Chop saw
- Ironworker
- Lots of clamps and/or a good vise
- Notcher
- Plasma cutter
- Sheetmetal brake
- Shop press or brake for bending metal
- Tube Bender/bender
- Welding table

MUST-HAVES FOR YOUR MAN CAVE

- Couch
- Heater
- Mini fridge
- Off-road posters
- Radio

10 MUST-HAVE SHOP TOOLS

- Air compressor
- Angle grinder, 4½-inch
- Electric drill
- Floor jack, 2- to 3-ton rated
- Handtool set
- Reciprocating saw
- Torches
- Torque wrench
- Vise
- Welder (and auto-darkening helmet)

11 ITEMS WE USE MOST OFTEN

- Electric nut driver
- Gear wrenches
- Jackstands
- Pick set
- Pliers
- Rolling carts
- Screwdrivers
- Sharpie permanent marker
- Sink or hose for cleanup
- Tape measure
- Wobble sockets



© 2015 GLOCK, Inc.

CONFIDENCE.
IT'S WHAT YOU CARRY.

+ Learn more at confidence.glock.com/4wheel

8 Lighting is one of the most overlooked aspects of a shop. You can never have too many lights, too many electrical outlets (110 or 220 volts), or too many air hose attachments. Our only complaint about lighting in the shop is that the rollup door covers half the lights when open. A coiling door would not have this issue.

9 Have you caught on yet how much we like organization? These plastic storage totes are inexpensive and easy to stack. We label them for each project vehicle and keep everything in case we need it in the future.

10 A chop saw is a valuable tool for fabrication projects and doesn't take up much room. Our Dewalt chop saw has cut through heavy-wall tubing without issue, but it is loud, so we recommend hearing protection. A cold saw would be cleaner and faster, but they are significantly more expensive than a traditional chop saw.

11 If you are shuffling projects like we always seem to be doing, you cannot have too many carts. The Harbor service cart in the background seems to be loaded with tools and parts for projects so often that we are considering buying a second cart. The folding cart in the foreground with the KMC wheels on it hardly takes up any room when not in use.

12 Whether you are building a bumper, fixing a cracked frame, or turning your open differential into a locker, a welder is essential. If you have the budget, consider purchasing a

220-volt welder like this Millermatic190, which will provide more power than a 110-volt one. The Auto-Set function makes the Millermatic 190 quick and easy to use for a variety of projects.

13 We prefer a radio in the shop to a television, since we can listen to music while we work without being distracted by what is on the tube. When the work is done, playing a friendly racing game with your friends can be a fun way to wind down. We even use the game in place of ro-sham-bo to determine who has to perform tasks like cleaning the shop bathroom or take out the trash.

14 Sometimes projects run later into the night than you anticipated. In these instances, having some Rockstar on hand can help you and your friends push through until the project is completed. Some shops have kegorators or beer fridges as well, but we have found that these do not seem to increase production in the same fashion as energy drinks.

15 Have you been fortunate enough to appear in *Petersen's 4-Wheel & Off-Road*? That definitely earns you bragging rights. We scanned these photos from the magazine and made posters from them at Snapfish to give a custom touch to the shop walls.



8



9

SOURCES

DEWALT
800.4DEWALT
dewalt.com

HARBOR FREIGHT TOOLS
800.423.2567
harborfreight.com

MILLER
920.734.9821
millerwelds.com

STOP DREAMING. START WHEELING. MAXXIS.

THE TIRE PRIMER

TIRE SPECS

Sizing: Flotation sizes from 15" – 20"
Tire Diameter: 35" – 40"
Ply Rating: 6PR – 10PR
Construction: Bias Ply

NEW
NON-COMPETITION
VERSION

4 WHEEL PARTS
Your Truck & Jeep Accessory Superstore

f 800-4-MAXXIS / MAXXIS.COM





SUSPENSION 2015 SUSPENSION KITS NOW AVAILABLE! CALL US FOR DETAILS ON YOUR RIDE!



PRO COMP SUSPENSION KITS

2015 F-150 4WD	6" Stage I Kit w/ ES Shocks	EXP4189B	\$1782.99
2015 F-150 4WD	Level Lift - Strut Spacer	EXP62206	\$229.99
11-15 F-250 4WD	6" Stage I Kit w/ ES Shocks	EXP4175B	\$1124.99
14-15 Chevy 1500 4WD	6" Knuckle Kit w/ ES Shocks	EXP41154B	\$1683.99
11-15 Chevy 2500 2/4WD	6" Knuckle Kit w/ ES Shocks	EXP1085B	\$1807.99
2015 Ram 1500 4WD	6" Stage I Kit w/ ES	EXP42101B	\$1868.99
07-15 Tundra 2/4WD	7" Stage I Kit w/ ES	EXP5085B	\$1828.99
07-15 JK 4-Door	3.5" Lift	EXP43100B	\$711.99



WE CARRY ALL MAJOR MANUFACTURERS OF SUSPENSION SYSTEMS, LEVEL AND LIFT KITS, AND SHOCKS.



FABTECH SUSPENSION KITS

07-14 Chevy 1500 2WD/4WD	4"	FABK1059	\$720.99
11-15 Chevy 2500 2WD/4WD	4"	FABK1055	\$1204.99
2015 Ford F-150 4WD	6"	FABK2194	\$1701.99
08-15 Ford F-250/F-350 4WD	4"	FABK2180	\$860.95
09-13 Ram 2500 (Diesel) 4WD	4.5"	FABK3037	\$1267.94
07-14 Toyota Tundra 2WD/4WD	4"	FABK7028	\$1189.99



From \$32.99 EXP120500



LIGHTING



BUMPERS



BUMPERS/EXTERIOR



WINCHES



TOPS AND ACCESSORIES



INTERIOR ACCESSORIES



FREE Shipping when you order today and pick up at any store
To find a store near you: www.4wheelparts.com/stores

Not responsible for misprints or typos. Prices are subject to change without notice. Some large items may include a crating/handling fee. Call or log on for details. Canadian prices may vary. International destinations fees may apply. Financing Not Available In Canada

Financing Available
Through 4 Wheel Parts
and Car Care One.
For More Details:
www.4WheelParts.com/finance
*Programs subject to credit approval. Minimum monthly payments required.



69 STORES IN NORTH AMERICA

SERVICE SPECIAL: ALIGNMENTS FROM **\$69.99***
 *Plus Parts (4x4 Vehicles \$10 More)

NEW STORES
 Now Open:
 Baton Rouge, LA
 Langley, BC Canada

4 WHEEL PARTS
 Your Truck & Jeep Accessory Superstore

ACCESSORIES



NEW
EXCLUSIVELY AT 4 WHEEL PARTS!
JEEP BACKBONE SECURITY DECK COVER
 • SOFT TOP SECURITY!
 From **\$649.99** JBBB-JK-11-14-TP



NEW
ARCTIC FRIDGE/FREEZER
 From **\$724.99** S/B2789



NEW
EPS INVERTER GENERATOR
 • 2600 Watt max output, 2,300 continuous
\$799.99 S/B2786

DRIVETRAIN



DIFFERENTIAL COVERS
 From **\$108.99**
 G/240-2031AL



GEAR PACKAGES
 From **\$596.96**
 K1TD35D30456TJ



NEW
FRONT CORE 44 ASSEMBLY
 From **\$4299.99** G/2C4JML456MP5
REAR CORE 44 ASSEMBLY
 From **\$3499.99** G/2C4JMR456MP5

PERFORMANCE AIR INTAKES, PROGRAMMERS, EXHAUST AND MORE



BANKS INTAKES
 From **\$410.99** GBE49191



AIRAID INTAKES
 From **\$129.99** EVE300-728



K&N AIR INTAKES
 From **\$197.99** K/N57-9008
STOCK REPLACEMENT AIR FILTERS
 From **\$46.99** K/N33-2514



NEW
CALL FOR SPECIAL PRICING
SUPERCHIPS FLASHPAQ*
\$349.99 SCI1840



BULLY DOG TRIPLE DOG GT GAS TUNER
 • 4 Products in 1 unit
\$429.99 B/D40417



MAX ENERGY 2.0 POWER PROGRAMMER
 • Larger backlit screen
 • Quick & easy navigation for simple installation/tuning/features
 2012-14 JK 3.6: +19 HP/+18 Tq
 2007-11 JK 3.8: +11 HP/+24 Tq
 (Gains based on premium octane)
\$349.99 HYP2200



NEW



FLOWMASTER JK EXHAUST KIT
 • Dyno proven performance
 • Stainless steel
 12-15 JK **\$489.99** FLW817729



ORPs & ROCK KRAWLER HIGH CLEARANCE SERIES
 • Black Series offers a distinct look
\$582.99 Ea. M/F15160



SUPER TURBO DUAL EXHAUST
 • 07-15 JK Wrangler Rubicon & Unlimited
 From **\$150.99** DYN39510



1 CLICK BRAKE KIT
 • Ideal for street performance
 From **\$107.99** PSTK697



1 CLICK EXTREME TRUCK AND TOW BRAKE KIT
 • Ideal for off-road and towing
 From **\$155.98** PSTK1202-36

TIRES WE CARRY A HUGE INVENTORY. CALL FOR PACKAGE DEALS!



Trail Grappler Open Country MT Open Country R/T M-16 Bighorn Deegan 38 Baja MTZ Fun Country Grabber Xtreme A/T Xtreme MT2



WHEELS WE HAVE THE HOTTEST STYLES!



NEW
LRG 109 PIKE
 Black Milled/Machined Black
 Sizes: 20", 22"
 From **\$259.99**



NEW
LRG 111 CLASSICO
 Black Milled / Machined Black
 Size: 20"
 From **\$249.99**



NEW
PRO COMP 40 VERTIGO
 Satin Black / Dark Gray
 Size: 17", 18", 20"
 From **\$222.99**



NEW
PRO COMP 41 PHASER
 Satin Black / Machine Black
 Sizes: 17", 18", 20"
 From **\$166.99**



PRO COMP 7069
 Satin Black / Polished
 Sizes: 15", 16", 17"
 From **\$107.99**



PRO COMP 7036 HELLDORADO
 Flat Black
 Sizes: 17", 18"
 From **\$166.99**



NEW
KMC XD 127
 Satin Black / Matte Gray
 Sizes: 15", 16", 17", 18", 20"
 From **\$164.99**



NEW
KMC XD 128
 Satin Black/Gray/ Machine Face
 Sizes: 15", 16", 17", 18", 20"
 From **\$194.99**



NEW
MICKEY THOMPSON 38 PRO 4
 Matte Black
 Sizes: 15", 16", 17"
 From **\$155.99**



NEW
METHOD MR306 MESH
 Matte Black / Machined Face
 Sizes: 16", 17", 18", 20"
 From **\$183.99**



FUEL OFF ROAD D551 TROPHY
 Matte Black / Anthracite
 Sizes: 17", 18", 20", 22"
 From **\$232.99**



FUEL OFF ROAD D557 ANZA
 Matte Black / Anthracite
 Sizes: 15", 16", 17", 18", 20"
 From **\$168.99**

Don't See it here? Visit **www.4WheelParts.com**
 Order or speak to an expert **800.284.9905**

Come See Us At:

TRUCK & JEEP FEST

Orlando, FL August 22-23

AD CODE: 4W01015



PERFORMANCE AIR INTAKE SYSTEMS

OVER 600 INTAKES AVAILABLE

- Guaranteed to Increase Horsepower
- Better Engine Sound
- Washable High-Flow Cotton Air Filter
- Easy to Install
- 10-Year/Million Mile Limited Warranty



Black HDPE Tube



BLACKHAWK
PERFORMANCE SYSTEMS

Most popular applications
shown. Visit KNFILTERS.COM for
complete application listings

SOME INTAKE SYSTEMS ARE NOT LEGAL FOR
SALE OR USE ON ANY POLLUTION CONTROLLED
MOTOR VEHICLE IN CALIFORNIA OR STATES
ADOPTING CALIFORNIA EMISSION PROCEDURES.
See knfilters.com for CARB status on each part for a specific vehicle

CHEVROLET	YEARS	ENGINE	NOTE	HP GAIN	PART#	EST. PRICE
1500	14-15	5.3L	2	+ 11 hp	K/N63-3082	\$247.99
1500	09-13	4.8L	2	+ 10 hp	K/N63-3070	\$305.99
1500	09-13	5.3L	2	+ 10 hp	K/N63-3070	\$305.99
2500 HD/3500	11-14	6.6L DSL	2	+ 19 hp	K/N63-3077	\$296.99
Tahoe	2015	5.3L	2	+ 11 hp	K/N63-3082	\$247.99
Tahoe	09-14	5.3L	2	+ 10 hp	K/N63-3070	\$305.99
Tahoe	09-14	5.3L	2	+ 10 hp	K/N63-3070	\$305.99
FORD						
F150	11-14	5.0L	2	+ 12 hp	K/N63-2581	\$266.99
F150	11-14	3.5L	2	+ 11 hp	K/N63-2583	\$278.99
SVT Raptor	10-14	6.2L	2	+ 20 hp	K/N77-2579KTK	\$343.99
F250/F350 SD	11-15	6.7L DSL	2	+ 12 hp	K/N63-2582	\$365.99
F250/F350 SD	11-15	6.2L	2	+ 14 hp	K/N77-2582KTK	\$266.99
JEEP						
Wrangler	12-15	3.6L	2	+ 12 hp	K/N63-1566	\$296.99
Wrangler	12-15	3.6L	2	+ 12 hp	K/N63-1566	\$296.99
Wrangler	07-10	3.8L	1	+ 8 hp	K/N57-1553	\$262.99
Wrangler	97-06	4.0L	1	+ 12 hp	K/N57-1514-1	\$243.99
RAM						
1500	11-14	5.7L	2	+ 16 hp	K/N63-1561	\$280.99
1500	11-12	4.7L	2	+ 9 hp	K/N63-1529	\$316.99
2500/3500	13-15	6.7L DSL	2	+ 15 hp	K/N63-1568	\$219.99
2500/3500	13-14	5.7L	2	+ 16 hp	K/N63-1561	\$280.99
2500/3500	11-12	6.7L DSL	2	+ 8 hp	K/N63-1562	\$449.99
TOYOTA						
Tacoma	12-14	4.0L	2	+ 9 hp	K/N63-9037	\$282.99
Tacoma	05-13	2.7L	2	+ 7 hp	K/N63-9026	\$314.99
Tacoma	05-11	4.0L	2	+ 10 hp	K/N63-9025	\$266.99
Tundra	10-14	4.6L	2	+ 14 hp	K/N63-9035	\$296.99
Tundra	12-14	5.7L	2	+ 9 hp	K/N63-9036	\$296.99
Tundra	07-11	5.7L	2	+ 13 hp	K/N63-9031-1	\$274.99

NOTES:

- 1) Street Legal in 50 States.
 - 2) Street Legal in most states, not legal for sale or use in California or other states with similar emission control regulations.
- *Estimated horsepower and torque gains based on specific or similar vehicle dynamometer tests. Results will vary.



Daystar Leveling Kits

Application	Height	Description	Part #	Price
Chevy / GM				
07-15 Silverado/Sierra 1500 2WD/4WD	2"	Front Leveling Kit	DAYKG09139BK	\$99.99
14-15 Silverado/Sierra 1500 2WD/4WD	2"	Front & Rear Leveling Kit	DAYKG09138BK	\$218.99
07-13 Silverado/Sierra 1500 2WD/4WD	2"	Front & Rear Leveling Kit	DAYKG09118BK	\$218.99
11-15 Silverado/Sierra 2500 2WD/4WD	2"	Front Leveling Kit	DAYKG09123	\$129.99
99-10 Silverado/Sierra 2500 2WD/4WD	2"	Front Leveling Kit	DAYKG09107	\$129.99
14-15 Tahoe/Suburban/Yukon 2WD/4WD	2"	Front Leveling Kit	DAYKG09134BK	\$129.99
Ford				
10-14 F-150 Raptor 4WD	2"	Front Leveling Kit	DAYKF09129BK	\$129.99
09-15 F-150 2WD/4WD	2"	Front Leveling Kit	DAYKF09124BK	\$129.99
05-15 F-250/F-350/F-450/F-550 4WD	2.5"	Front Leveling Kit	DAYKF09119BK	\$129.99
99-15 F-250/F-350/F-450/F-550 2WD	2"	Front Leveling Kit	DAYKF09101BK	\$129.99
Dodge				
09-15 Ram 1500 4WD	2"	Front Leveling Kit	DAYKC09113BK	\$129.99
09-15 Ram 1500 4WD	2"	Front & Rear Leveling Kit	DAYKC09114BK	\$159.99
94-13 Ram 2500/3500 4WD	2"	Front & Rear Leveling Kit	DAYKC09122BK	\$218.99
13-15 Ram 2500/3500 4WD	2"	Front Leveling Kit w/Shocks	DAYKC09138BK	\$239.99
14-15 Ram 3500 2WD	2"	Front Leveling Kit	DAYKC09134BK	\$159.99
Toyota				
05-15 Tacoma 2WD/4WD	2.5"	Front Leveling Kit	DAYKT09116BK	\$129.99
07-15 Tundra 2WD/4WD	3"	Front Leveling Kit	DAYKT09125BK	\$129.99
10-13 4 Runner 2WD/4WD	2.5"	Front Leveling Kit	DAYKT09133BK	\$129.99
07-14 FJ Cruiser 2WD/4WD	2.5"	Front Leveling Kit	DAYKT09124BK	\$159.99
07-14 Sequoia 2WD/4WD	3"	Front Leveling Kit	DAYKT09125BK	\$129.99
Jeep				
07-15 JK 2WD/4WD	1.75"	Front & Rear Leveling Kit	DAYKJ09137BK	\$159.99
07-15 JK 2WD/4WD	3"	Front & Rear Kit w/ Shocks	DAYKJ09153BK	\$399.99
97-06 TJ 2WD/4WD	1.75"	Front & Rear Leveling Kit	DAYKJ09103BK	\$129.99
97-06 TJ 2WD/4WD	2.75"	Front & Rear Kit w/ Shocks	DAYKJ09160BK	\$459.99
84-06 TJ/XJ/ZJ 2WD/4WD	1.75"	Leveling Kit (Pair)	DAYKJ09100BK	\$39.99
84-01 XJ Cherokee 2WD/4WD	1.75"	Front & Rear Leveling Kit	DAYKJ09105BK	\$159.99

LOW
PRICE
GUARANTEE!



Hood Cowl & Vents

Application	Description	Part #	Price
07-16 Jeep JK	Side Hood Vents	DAYKJ71048BK	\$121.99
07-16 Jeep JK	Center Hood Vents	DAYKJ71049BK	\$69.99
07-16 Jeep JK	Hood Cowl Kit	DAYKJ71050BK	\$329.99
95-06 Jeep YJ / TJ	Hood Vents	DAYKJ71042BK	\$79.99

Hood Wranglers

Application	Description	Part #	Price
07-16 Jeep JK	Hood Wrangler	DAYKJ09146BK	\$24.99
97-06 Jeep TJ	Hood Wrangler	DAYKJ09146BK	\$24.99

Dash and Switch Panels

Application	Description	Part #	Price
11-15 Jeep JK	Dash Panel with GPS/Phone Cradle	DAYKJ71047BK	\$35.99
07-10 Jeep JK	Dash Panel with GPS/Phone Cradle	DAYKJ71020	\$24.99
07-10 Jeep JK	Switch Panel	DAYKJ71030	\$19.99
07-10 Jeep JK	A-Pillar Switch Pod w/ switches	DAYKJ71044BK	\$68.99

D-Ring Isolators

From \$15.99 DAYKU70057BK

Winch Isolators

From \$29.99 DAYKU70039BK

20 AMP Rocker Switches

From \$10.99 DAYKU80011



DAYKJ71020



DAYKJ71030



DAYKJ71044BK



FREE Shipping when you order today and pick up at any store
To find a store near you: www.4wheelparts.com/stores

Not responsible for misprints or typos. Prices are subject to change without notice. Some large items may include a crating/handling fee.
Call or log on for details. Canadian prices may vary. International destinations fees may apply. GE Financing Not Available In Canada

AD CODE: 4WDR1015

YOUR #1 SOURCE FOR BFGOODRICH TIRES!

4 WHEEL PARTS

Your Truck & Jeep Accessory Superstore

BFGoodrich® Tires



NEW

All Terrain KO2

- 20% Tougher Sidewalls: Featuring race-proven CoreGard™ Technology
- Longer tread life On and Off-Road
- Aggressive All-Terrain Traction

Tire Size	Part#	Price	Tire Size	Part#	Price
225/75R16	BFG10598	\$165.99	37X12.50R17	BFG12987	\$319.99
235/85R16	BFG75445	\$163.99	265/65R18	BFG05260	\$245.99
245/75R16	BFG15477	\$165.99	265/70R18	BFG40855	\$247.99
265/75R16	BFG67179	\$176.99	275/65R18	BFG36457	\$222.99
285/75R16	BFG05855	\$197.99	275/70R18	BFG80887	\$208.99
305/70R16	BFG34102	\$220.99	285/65R18	BFG93857	\$247.99
315/75R16	BFG50203	\$216.99	325/65R18	BFG01547	\$301.99
265/70R17	BFG66255	\$195.99	35X12.50R18	BFG13389	\$296.99
265/70R17	BFG76397	\$205.99	275/55R20	BFG12579	\$211.99
275/70R17	BFG76597	\$188.99	275/60R20	BFG64811	\$236.99
285/70R17	BFG9728	\$236.99	275/65R20	BFG17764	\$274.99
34X10.50R17	BFG81644	\$270.99	285/65R20	BFG88423	\$334.99
35X12.50R17	BFG50022	\$265.99			

**CALL NOW
FOR PACKAGE DEALS!**

All Terrain T/A KO

Tire Size	Part#	Price	Tire Size	Part#	Price
215/75R15	BFG02821	\$129.99	275/70R16	BFG94223	\$221.99
235/75R15	BFG29274	\$139.99	295/75R16	BFG82042	\$231.99
31/10.50R15	BFG03119	\$163.99	37/12.50R17	BFG12987	\$319.99
33/10.50R15	BFG63540	\$164.99	265/70R17	BFG12665	\$208.99
33/12.50R15	BFG09881	\$173.99	305/65R17	BFG00875	\$278.99
35/12.50R15	BFG49774	\$188.99	265/65R18	BFG05260	\$245.99
225/70R16	BFG02204	\$191.99	285/65R18	BFG93857	\$247.99
235/70R16	BFG72870	\$183.99	305/65R18	BFG35237	\$311.99
235/85R16	BFG75445	\$163.99	305/55R20	BFG30836	\$366.99
245/70R16	BFG03219	\$166.99	285/55R20	BFG30710	\$378.99
245/75R16	BFG15477	\$165.99	325/60R20	BFG38941	\$468.99
255/70R16	BFG78762	\$202.99	325/50R22	BFG35959	\$638.99

* Prices subject to change without notice.
See website for current pricing and specials. *

Mud Terrain KM2

Tire Size	Part#	Price	Tire Size	Part#	Price
235/75R15	BFG05926	\$183.99	LTS285/70R17/D	BFG37037	\$265.99
30/9.50R15	BFG15976	\$175.99	LTS305/65R17/E	BFG34424	\$319.99
31/10.50R15	BFG98952	\$200.99	35/12.50R17/D	BFG38371	\$324.99
32/11.50R15	BFG11079	\$203.99	37/12.50R17/D	BFG25419	\$407.99
33/12.50R15	BFG37047	\$204.99	LTS305/60R18/E	BFG31489	\$368.99
35/12.50R15	BFG53290	\$216.99	35/12.50R18/D	BFG28459	\$421.99
235/70R16	BFG72870	\$183.99	37/12.50R18/D	BFG97218	\$550.99
235/85R16	BFG40661	CALL	LTS305/55R20/E	BFG20881	\$531.99
245/75R16	BFG41771	\$238.99	LTS325/60R20/D	BFG34143	\$584.99
255/85R16	BFG04222	\$205.99	37/12.50R20/D	BFG39143	\$679.99
265/75R16	BFG19683	\$223.99	42/14.50R20/C	BFG96757	\$846.99
LTS15/75R16/D	BFG24970	\$313.99	LTS35/55R22/D	BFG10687	\$681.99
LTS245/70R17/E	BFG13859	\$241.99			

LIFE IS BETTER OFF-ROAD™



WHY SHOP WITH US?

- + Truck And Jeep Experts For Over 50 years
- + 5 Shipping Warehouses For Fast Delivery
- + Retail Showrooms Throughout North America

- + 3 Ways To Shop: Phone, Online And In Store
- + Convenient Order Pick-up And Returns At Retail Stores

- + We Install Everything We Sell, Full Service Centers At Stores
- + Competitive Pricing

CALL NOW
800-284-9905

ORDER ONLINE
4WheelParts.com

SHOP IN PERSON
69 Retail Stores

SLEEPER SLEEPER

A MODERN WRANGLONEER

BY Verne Simons

PHOTOGRAPHY FRED WILLIAMS
AND VERNE SIMONS

EVERYONE LOVES A SLEEPER. You know a car or truck that is a wolf in sheep's clothing. The term *sleeper* usually applies to cars that look understated but are built to blow anyone's doors off. A well-executed sleeper looks average and does not easily give up its secrets until it's too late. In the end, all you see are taillights.

It's a little known fact that there is also an off-road version of the sleeper. The off-road sleeper looks stock but hides a trick drivetrain, more flex than expected, and well-matched components to increase off-road performance. This Wagoneer is one.

Kyle Evans, a designer who lives in Royal Oak, Michigan, owns and designed this 1976 Wagoneer sleeper. The well-executed plan was to build a Waggy that would look like a restored FSJ from a distance but would hide performance and suspension underneath. Closer inspection would reveal the wild yet period-correct 1970s interior. Once drawn in by these immaculate details, you may not notice the modified frame, trick suspension, and heavy-duty modern drivetrain hiding just inches away from the hip interior. With this Jeep the layers of intrigue and the details continue to pour out as you check things out. The Wagoneer is built to drive down the road with the utmost of modern comfort and reliability and yet be cable of getting the occupants farther down the trail than anyone could expect from a vehicle that looks like a showroom restoration.

We're going to let a few of the cats out of the bag. Believe it or not, Kyle's Waggy is far better than new, with multilink sus-

1 At first glance Kyle Evans' 1976 Jeep Wagoneer looks like something out of a vintage Jeep advertisement. Mix in a couple of vintage flatties and you have yourself a sense of time travel. The build began with finding the right southwestern Wagoneer. The original Renegade Sierra paint was cleaned up, and a modern Pepper White was added as accents in the spear and roof. The new paint was sprayed by Olson's in Traverse City, Michigan. Kyle also added the razor grille from a later Waggy and those round amber foglamps for a hint of extra flavor. Other period additions come from the Jeep's mid-1960s badging, 1968 Mopar sidemarkers, 15x8 Wheel Vintiques wheels coated in Pepper White with stock wheel covers, and 31/10.50R15 BFGoodrich KO's. Those vintage bumpers hide tubular steel bumpers that protect the body and act as secure tow points if someone gets stuck.





5

2 The interior of the Wagoneer is stunning. Kyle had his thumb in the interior designs of various Mopar Underground rigs like the J-12 concept and the Mighty FC. Orange plaid, shag floor mats, and chrome accents—it's hard to distinguish between factory and modern-day upgrade. The fact is those are the original seats retrimmed with plaid inserts using fabric from an older Volkswagen van.

3 That plush shag carpet and plaid make an appearance in the rear compartment of the Jeep, tying the interior together. On the passenger side a plaid kick panel opens to show a hidden built-in Vair compressor and hose. The spare tire is floor-mounted over vinyl wood that

planks the rear compartment and is accented with chrome strips.

4 Beneath the vehicle the unparalleled attention to detail continues. A high-pinion Dynatrac Pro Rock 44 front axle holds 4.10 gears and an ARB Air Locker. The front suspension uses Rusty's Off-Road TJ control arms and Fox 2.0 coilovers. Yep, there are coilovers tucked inside those front fenders. The front suspension also uses a TJ front track bar and sway bar disconnects from TeraFlex. Kyle estimates that the Jeep sits about 3 inches over stock height, but it flexes like it has a lot more.

5 Underneath the Wagoneer, John Kalchik of Leelanau Motorsport did the extensive frame modification, front and rear. He adapted TJ suspension and added tasteful undercoating. TJ's ride great, and this Waggy now rides like a hefty TJ with a healthy V-8. The cushy ride is a perfect fit for this rig on-road, and it allows the Waggy to hug the trail when off-road.





✓Yes



✓Yes



xNo



✓Yes



Complete Brake Kits!

✓Yes



✓Yes

- ✓ Reliably Low Prices
 - ✓ Easy To Use Website
 - ✓ Huge Selection
 - ✓ Fast Shipping
- www.rockauto.com



THE DAYSTAR HOOD COWL REDUCES UNDER HOOD TEMPERATURES

JEEPS OVERHEAT
HOOD COWL SOLVES THE PROBLEM



NEW TJ MODEL
coming soon
CALL NOW

You Tube
WATCH INSTALLATION
VIDEOS ONLINE
T DiY

1-888-889-5436

www.daystarweb.com

sales@daystarweb.com



6



7



8



9

pension based on TJ geometry using Fox 2.0 coilovers up front and JK rear coils out back. Axles are an all-new, high-pinion Dynatrac Pro Rock 44 front and a Dynatrac Pro Rock 60 rear. The original frame was boxed and beefed before a 6.2L GM L92 aluminum V-8, a 4L80E transmission, and a Novak-sourced NP231 transfer case were added. That's just the start of all the details Kyle designed into the Wagoneer and executed over 2½ years with help from Leelanau Motorsports, John Houdek Welding LLC, Slack Upholstery, and Thomas and Milliken.

Kyle's style and skill are not a coincidence. He has close ties to Jeep as one of the automaker's former designers. His ideas and designs are clean and functional, which is also true for his Wagoneer. 

6 The Jeep receives ample power from a 6.2L all-aluminum GM L92 V-8 bolted to a 4L80E transmission. The engine and transmission were installed and wired by Kalchik of Leelanau Motorsports using Novak Conversions motor mounts and a Novak engine wiring harness with PCM reflash.

7 Behind the GM transmission a Novak Conversions-supplied NP231 transfer case with a slip-yoke eliminator kit distributes power to the axles. Most of the transmission and transfer case and part of the dual exhaust are protected by a large center skidplate made of reinforced ¾ steel plate that was then powdercoated black. The muffler that keeps the Jeep understated is a dual-in/single-out from MagnaFlow.

8 The rear axle is a Dynatrac Pro Rock 60 that holds 4.10 gears and an ARB Air Locker. The rear suspension uses Rusty's Off-Road control arms and a unique Watts linkage that keeps

the rear axle and tires centered within the fenders even as the axle flexes. A traditional track bar would push the axle into a fender as the Jeep flexed. Suspension travel comes from AEV-sourced JK rear coils holding Daystar Stinger bumpstops and Metal Cloak 6-Pack shocks. These shocks allow for much more travel within a confined packaging space.

9 The Waggy also wears an early 1960s flip-down license plate bezel so the plate is visible while the tailgate is down. The rear bumper is strengthened with hidden tube work and has a recessed receiver for a trailer hitch or a rear tow point. While we were out on the trail Kyle was not too interested in beating all the new off the Waggy in the rocks, but he does wheel it pretty hard for as much work as he has in it. After all, it was fresh out of the shop after 2½ years of work and on its maiden trail voyage. The end result of the Waggy is stunning and it works very well. The truck drives on-road like a new SUV and goes off-road better than many new Jeeps.

TECH SPECS

1976 JEEP WAGONEER

►DRIVETRAIN

ENGINE: 6.2L aluminum GM L92 V-8

TRANSMISSION: 4L80E

TRANSFER CASE: Novak NP231 with SYE

FRONT AXLE: Dynatrac Pro Rock 44 with

4.10 gears and ARB Air Locker

REAR AXLE: Dynatrac Pro Rock 60 with

4.10 gears and ARB Air Locker

►SUSPENSION

SPRINGS & SUCH: TJ suspension, Rusty's Offroad control arms, Fox 2.0 coilovers with Eibach springs (front) and AEV JK springs and Metal Cloak 6 Pack shocks (rear)

TIRES & WHEELS: 31/10.50R15

BFGoodrich tires on 15x8 Wheel

Vintiques wheels and original hub caps

STEERING: Stock

OTHER STUFF: Hidden tube bumpers with integral tow points, hidden Viar Air Compressor, Optima BlueTop battery, Daystar Stinger bumpstops, vinyl flooring, plush shag carpet floor mats, Novak Conversions motor mounts and engine wiring harness, boxed frame, custom trans crossmember, custom skidplate

HARBOR FREIGHT

QUALITY TOOLS AT RIDICULOUSLY LOW PRICES

QUALITY TOOLS

SUPER COUPON

5 FT. 6" x 7 FT. 6" ALL PURPOSE WEATHER RESISTANT TARP
 LOT 69136/69248
 69128/69210/953 shown

SAVE 61%

\$269
 REG. PRICE \$6.99

11069494

LIMIT 6 - Good at our stores or HarborFreight.com or by calling 800-423-2567. Cannot be used with other discount or coupon or prior purchases after 30 days from original purchase with original receipt. Offer good while supplies last. Non-transferable. Original coupon must be presented. Valid through 11/30/15. Limit one coupon per customer per day.

SUPER COUPON

500 LB. CAPACITY ALUMINUM CARGO CARRIER

SAVE \$70

\$79.99
 REG. PRICE \$149.99

LOT 92655 shown
 69688/60771

11055815

LIMIT 3 - Good at our stores or HarborFreight.com or by calling 800-423-2567. Cannot be used with other discount or coupon or prior purchases after 30 days from original purchase with original receipt. Offer good while supplies last. Non-transferable. Original coupon must be presented. Valid through 11/30/15. Limit one coupon per customer per day.

SUPER COUPON

3" HIGH SPEED AIR CUT-OFF TOOL
 CENTRAL PNEUMATIC

SAVE 70%

\$5.99
 REG. PRICE \$19.99

LOT 60243/47077 shown
 60374/67425/69473

11087824

LIMIT 8 - Good at our stores or HarborFreight.com or by calling 800-423-2567. Cannot be used with other discount or coupon or prior purchases after 30 days from original purchase with original receipt. Offer good while supplies last. Non-transferable. Original coupon must be presented. Valid through 11/30/15. Limit one coupon per customer per day.

SUPER COUPON

10 FT. x 17 FT. PORTABLE GARAGE

SAVE \$120

\$179.99
 REG. PRICE \$299.99

LOT 69039 shown
 60727/62286

11086528

LIMIT 4 - Good at our stores or HarborFreight.com or by calling 800-423-2567. Cannot be used with other discount or coupon or prior purchases after 30 days from original purchase with original receipt. Offer good while supplies last. Non-transferable. Original coupon must be presented. Valid through 11/30/15. Limit one coupon per customer per day.

SUPER COUPON

12 VOLT MAGNETIC TOWING LIGHT KIT

SAVE 66%

\$9.99
 REG. PRICE \$29.99

LOT 62753/69925
 69626/62517
 67455 shown

11037889

LIMIT 6 - Good at our stores or HarborFreight.com or by calling 800-423-2567. Cannot be used with other discount or coupon or prior purchases after 30 days from original purchase with original receipt. Offer good while supplies last. Non-transferable. Original coupon must be presented. Valid through 11/30/15. Limit one coupon per customer per day.

SUPER COUPON

12 TON HYDRAULIC PIPE BENDER
 Central Hydraulics

SAVE \$100

\$89.99
 REG. PRICE \$189.99

LOT 62539
 32888 shown

11065395

LIMIT 3 - Good at our stores or HarborFreight.com or by calling 800-423-2567. Cannot be used with other discount or coupon or prior purchases after 30 days from original purchase with original receipt. Offer good while supplies last. Non-transferable. Original coupon must be presented. Valid through 11/30/15. Limit one coupon per customer per day.

SUPER COUPON

20% OFF

ANY SINGLE ITEM

LIMIT 1 - Save 20% on any one item purchased at our stores or HarborFreight.com or by calling 800-423-2567. *Cannot be used with other discount, coupon, gift cards, Inside Track Club membership, extended service plans or on any of the following: compressors, generators, tool storage or carts, welders, floor jacks, Towable Ride-On Trencher, Saw Mill (Item 61712/62366/67138), Predator Gas Power Items, open box items, in-store event or parking lot sale items. Not valid on prior purchases after 30 days from original purchase date with original receipt. Non-transferable. Original coupon must be presented. Valid through 11/30/15. Limit one coupon per customer per day.

WOW SUPER COUPON

2.5 HP, 21 GALLON, 125 PSI VERTICAL AIR COMPRESSOR
 CENTRAL PNEUMATIC

SAVE \$70

\$149.99
 REG. PRICE \$219.99

LOT 67847 shown
 61454/61693

11035628

LIMIT 4 - Good at our stores or HarborFreight.com or by calling 800-423-2567. Cannot be used with other discount or coupon or prior purchases after 30 days from original purchase with original receipt. Offer good while supplies last. Non-transferable. Original coupon must be presented. Valid through 11/30/15. Limit one coupon per customer per day.

SUPER COUPON

MOVER'S DOLLY
 HaulMaster

SAVE 40%

\$8.99
 REG. PRICE \$14.99

LOT 60497/61899
 62399/93888 shown

11080999

LIMIT 6 - Good at our stores or HarborFreight.com or by calling 800-423-2567. Cannot be used with other discount or coupon or prior purchases after 30 days from original purchase with original receipt. Offer good while supplies last. Non-transferable. Original coupon must be presented. Valid through 11/30/15. Limit one coupon per customer per day.

SUPER COUPON

26", 4 DRAWER TOOL CART
 US*GENERAL

SAVE \$180

\$99.99
 REG. PRICE \$279.99

LOT 95659 shown
 61634/61952

11047185

LIMIT 4 - Good at our stores or HarborFreight.com or by calling 800-423-2567. Cannot be used with other discount or coupon or prior purchases after 30 days from original purchase with original receipt. Offer good while supplies last. Non-transferable. Original coupon must be presented. Valid through 11/30/15. Limit one coupon per customer per day.

How Does Harbor Freight Sell GREAT QUALITY Tools at the LOWEST Prices?

We have invested millions of dollars in our own state-of-the-art quality test labs and millions more in our factories, so our tools will go toe-to-toe with the top professional brands. And we can sell them for a fraction of the price because we cut out the middle man and pass the savings on to you. It's just that simple! Come visit one of our 600 Stores Nationwide.

WOW SUPER COUPON

RAPID PUMP® 3 TON LOW PROFILE HEAVY DUTY STEEL FLOOR JACK
 PITTSBURGH

SAVE \$85

\$84.99
 REG. PRICE \$169.99

LOT 68049/62326
 62670/61282/61253 shown

11043623

LIMIT 3 - Good at our stores or HarborFreight.com or by calling 800-423-2567. Cannot be used with other discount or coupon or prior purchases after 30 days from original purchase with original receipt. Offer good while supplies last. Non-transferable. Original coupon must be presented. Valid through 11/30/15. Limit one coupon per customer per day.

SUPER COUPON

ELECTRIC CHAIN SAW SHARPENER
 CHICAGO ELECTRIC POWER TOOLS

SAVE 44%

\$27.99
 REG. PRICE \$49.99

LOT 61613
 68221 shown

11045862

LIMIT 4 - Good at our stores or HarborFreight.com or by calling 800-423-2567. Cannot be used with other discount or coupon or prior purchases after 30 days from original purchase with original receipt. Offer good while supplies last. Non-transferable. Original coupon must be presented. Valid through 11/30/15. Limit one coupon per customer per day.

SUPER COUPON

18 PIECE SAE AND METRIC T-HANDLE BALL END HEX KEY SET
 PITTSBURGH

SAVE 40%

\$11.99
 REG. PRICE \$19.99

LOT 62476
 96645 shown

11089496

LIMIT 5 - Good at our stores or HarborFreight.com or by calling 800-423-2567. Cannot be used with other discount or coupon or prior purchases after 30 days from original purchase with original receipt. Offer good while supplies last. Non-transferable. Original coupon must be presented. Valid through 11/30/15. Limit one coupon per customer per day.

WOW SUPER COUPON

20 TON SHOP PRESS
 CENTRAL MACHINERY

SAVE \$145

\$154.99
 REG. PRICE \$299.99

LOT 32879/60603 shown

11049134

LIMIT 5 - Good at our stores or HarborFreight.com or by calling 800-423-2567. Cannot be used with other discount or coupon or prior purchases after 30 days from original purchase with original receipt. Offer good while supplies last. Non-transferable. Original coupon must be presented. Valid through 11/30/15. Limit one coupon per customer per day.

SUPER COUPON

12,000 LB. ELECTRIC WINCH WITH REMOTE CONTROL AND AUTOMATIC BRAKE
 BADLAND

SAVE \$300

\$299.99
 REG. PRICE \$599.99

LOT 60813/61889/61256/68142 shown

11063310

LIMIT 4 - Good at our stores or HarborFreight.com or by calling 800-423-2567. Cannot be used with other discount or coupon or prior purchases after 30 days from original purchase with original receipt. Offer good while supplies last. Non-transferable. Original coupon must be presented. Valid through 11/30/15. Limit one coupon per customer per day.

SUPER COUPON

3/8" x 14 FT. GRADE 43 TOWING CHAIN
 HaulMaster

SAVE 55%

\$19.99
 REG. PRICE \$44.99

LOT 60658
 97711 shown

11086569

LIMIT 3 - Good at our stores or HarborFreight.com or by calling 800-423-2567. Cannot be used with other discount or coupon or prior purchases after 30 days from original purchase with original receipt. Offer good while supplies last. Non-transferable. Original coupon must be presented. Valid through 11/30/15. Limit one coupon per customer per day.

LOWEST PRICES *EVERYDAY*



**600 Stores
Nationwide**

WOW SUPER COUPON

Customer Rating
★★★★★

44", 13 DRAWER INDUSTRIAL QUALITY ROLLER CABINET

LOT 62744/69387/62270/62591/68784 shown

US*GENERAL

• Weighs 245 lbs.

AWARD WINNING QUALITY

SAVE \$330

\$369.99 ~~\$380.00~~ REG. PRICE ~~\$699.99~~

LIMIT 3 - Good at our stores or HarborFreight.com or by calling 800-423-2567. Cannot be used with other discount or coupon or prior purchases after 30 days from original purchase with original receipt. Offer good while supplies last. Non-transferable. Original coupon must be presented. Valid through 11/30/15. Limit one coupon per customer per day.

WOW SUPER COUPON

FREE

WITH ANY PURCHASE

3-1/2" SUPER BRIGHT NINE LED ALUMINUM FLASHLIGHT

LOT 69052 shown
69111/62522/62573

\$6.99 VALUE

LIMIT 1 - Cannot be used with other discount, coupon or prior purchase. Coupon good at our stores, HarborFreight.com or by calling 800-423-2567. Offer good while supplies last. Shipping & Handling charges may apply if not picked up in-store. Non-transferable. Original coupon must be presented. Valid through 11/30/15. Limit one FREE GIFT coupon per customer per day.

WOW SUPER COUPON

RETRACTABLE AIR HOSE REEL WITH 3/8" x 50 FT. HOSE

CENTRAL PNEUMATIC

SAVE \$90

\$59.99 REG. PRICE ~~\$149.99~~

LOT 93897 shown
69265/62344

LIMIT 3 - Good at our stores or HarborFreight.com or by calling 800-423-2567. Cannot be used with other discount or coupon or prior purchases after 30 days from original purchase with original receipt. Offer good while supplies last. Non-transferable. Original coupon must be presented. Valid through 11/30/15. Limit one coupon per customer per day.

WOW SUPER COUPON

STEP STOOL/WORKING PLATFORM

HaulMaster

LOT 62515
66911 shown

• 350 lb. Capacity

SAVE 28%

\$24.99 REG. PRICE ~~\$34.99~~

LIMIT 4 - Good at our stores or HarborFreight.com or by calling 800-423-2567. Cannot be used with other discount or coupon or prior purchases after 30 days from original purchase with original receipt. Offer good while supplies last. Non-transferable. Original coupon must be presented. Valid through 11/30/15. Limit one coupon per customer per day.

WOW SUPER COUPON

1500 WATT DUAL TEMPERATURE HEAT GUN (572°/1112°)

drillmaster

LOT 62340/62546
96289 shown

\$8.99 ~~\$29.99~~ **SAVE 70%**

LIMIT 9 - Good at our stores or HarborFreight.com or by calling 800-423-2567. Cannot be used with other discount or coupon or prior purchases after 30 days from original purchase with original receipt. Offer good while supplies last. Non-transferable. Original coupon must be presented. Valid through 11/30/15. Limit one coupon per customer per day.

WOW SUPER COUPON

9 PIECE FULLY POLISHED COMBINATION WRENCH SETS

PITTSBURGH

SAVE 62%

\$5.99 ~~\$15.99~~ REG. PRICE

LOT 69043
42304 shown

METRIC
LOT 42305/69044

YOUR CHOICE!

LIMIT 6 - Good at our stores or HarborFreight.com or by calling 800-423-2567. Cannot be used with other discount or coupon or prior purchases after 30 days from original purchase with original receipt. Offer good while supplies last. Non-transferable. Original coupon must be presented. Valid through 11/30/15. Limit one coupon per customer per day.

WOW SUPER COUPON

12" SLIDING COMPOUND DOUBLE-BEVEL MITER SAW WITH LASER GUIDE

SAVE OVER \$168

\$131.11 ~~\$299.99~~ REG. PRICE

LOT 61776/61969
61970/69684 shown

CHICAGO ELECTRIC

LIMIT 3 - Good at our stores or HarborFreight.com or by calling 800-423-2567. Cannot be used with other discount or coupon or prior purchases after 30 days from original purchase with original receipt. Offer good while supplies last. Non-transferable. Original coupon must be presented. Valid through 11/30/15. Limit one coupon per customer per day.

WOW SUPER COUPON

3 PIECE TITANIUM NITRIDE COATED HIGH SPEED STEEL STEP DRILLS

SAVE 60%

\$7.99 ~~\$19.99~~ REG. PRICE

LOT 91616 shown
69087/60379

Drill 28 Hole Sizes

LIMIT 5 - Good at our stores or HarborFreight.com or by calling 800-423-2567. Cannot be used with other discount or coupon or prior purchases after 30 days from original purchase with original receipt. Offer good while supplies last. Non-transferable. Original coupon must be presented. Valid through 11/30/15. Limit one coupon per customer per day.

WOW SUPER COUPON

NEW HARDY MECHANIC'S GLOVES

MEDIUM LOT 62434 62426
LARGE LOT 62433 62428
X-LARGE LOT 62432 62429 shown

SAVE 60%

\$3.99 ~~\$9.99~~ REG. PRICE

LIMIT 7 - Good at our stores or HarborFreight.com or by calling 800-423-2567. Cannot be used with other discount or coupon or prior purchases after 30 days from original purchase with original receipt. Offer good while supplies last. Non-transferable. Original coupon must be presented. Valid through 11/30/15. Limit one coupon per customer per day.

WOW SUPER COUPON

1/2" INDUSTRIAL QUALITY SUPER HIGH TORQUE IMPACT WRENCH

CENTRAL PNEUMATIC

SAVE \$55

\$74.99 ~~\$129.99~~ REG. PRICE

LOT 62627
68424 shown

700 ft. lbs. Max. Torque

LIMIT 3 - Good at our stores or HarborFreight.com or by calling 800-423-2567. Cannot be used with other discount or coupon or prior purchases after 30 days from original purchase with original receipt. Offer good while supplies last. Non-transferable. Original coupon must be presented. Valid through 11/30/15. Limit one coupon per customer per day.

WOW SUPER COUPON

PITTSBURGH 6 TON HEAVY DUTY STEEL JACK STANDS

SAVE 50%

\$39.99 ~~\$79.99~~ REG. PRICE

LOT 61197
62393/69596
38847 shown

LIMIT 4 - Good at our stores or HarborFreight.com or by calling 800-423-2567. Cannot be used with other discount or coupon or prior purchases after 30 days from original purchase with original receipt. Offer good while supplies last. Non-transferable. Original coupon must be presented. Valid through 11/30/15. Limit one coupon per customer per day.

WOW SUPER COUPON

170 AMP MIG/FLUX WIRE WELDER

WE CARRY A FULL LINE OF WELDING WIRE AND ACCESSORIES

SAVE \$135

\$164.99 ~~\$299.99~~ REG. PRICE

LOT 61888
68885 shown

LIMIT 3 - Good at our stores or HarborFreight.com or by calling 800-423-2567. Cannot be used with other discount or coupon or prior purchases after 30 days from original purchase with original receipt. Offer good while supplies last. Non-transferable. Original coupon must be presented. Valid through 11/30/15. Limit one coupon per customer per day.

WOW SUPER COUPON

4 PIECE 1" x 15 FT. RATCHETING TIE DOWNS

SAVE 60%

\$7.99 ~~\$19.99~~ REG. PRICE

LOT 60405/61524
62322/90984 shown

HaulMaster

LIMIT 6 - Good at our stores or HarborFreight.com or by calling 800-423-2567. Cannot be used with other discount or coupon or prior purchases after 30 days from original purchase with original receipt. Offer good while supplies last. Non-transferable. Original coupon must be presented. Valid through 11/30/15. Limit one coupon per customer per day.

WOW SUPER COUPON

8 CHANNEL SURVEILLANCE DVR WITH 4 INFRARED CAMERAS

Gunster 8M Security

SAVE OVER \$137

\$262.62 ~~\$299.99~~ REG. PRICE

LOT 61624
62463
61229 shown

Over 2500 hours of recording time.

LIMIT 4 - Good at our stores or HarborFreight.com or by calling 800-423-2567. Cannot be used with other discount or coupon or prior purchases after 30 days from original purchase with original receipt. Offer good while supplies last. Non-transferable. Original coupon must be presented. Valid through 11/30/15. Limit one coupon per customer per day.

WOW SUPER COUPON

CENTRAL PNEUMATIC HIGH SPEED METAL SAW

SAVE 61%

\$12.99 ~~\$33.99~~ REG. PRICE

LOT 62541/60568/91753 shown

LIMIT 5 - Good at our stores or HarborFreight.com or by calling 800-423-2567. Cannot be used with other discount or coupon or prior purchases after 30 days from original purchase with original receipt. Offer good while supplies last. Non-transferable. Original coupon must be presented. Valid through 11/30/15. Limit one coupon per customer per day.

WOW SUPER COUPON

OFF-ROAD LONG-RANGE TRUCK LIGHT SYSTEM

ROADSHOCK

SAVE 50%

\$19.99 ~~\$39.99~~ REG. PRICE

LOT 3029

For off-road use only.

LIMIT 6 - Good at our stores or HarborFreight.com or by calling 800-423-2567. Cannot be used with other discount or coupon or prior purchases after 30 days from original purchase with original receipt. Offer good while supplies last. Non-transferable. Original coupon must be presented. Valid through 11/30/15. Limit one coupon per customer per day.

• 100% Satisfaction Guaranteed • No Hassle Return Policy • 600 Stores Nationwide
• Over 25 Million Satisfied Customers • Lifetime Warranty On All Hand Tools • HarborFreight.com 800-423-2567

WHEELING AZ ROCKS 2015

TOYOTAS TACKLE ARIZONA TRAILS



By Jay Kopycinski
PHOTOGRAPHY JAY KOPYCINSKI

THE COLORADO RIVER CARVES a lazy path between California and Arizona. It offers a contrasting retreat from the sprawling desert throughout this region. It was near here that we ventured to the annual AZ Rocks event, a gathering that is almost exclusively Toyotas but not stubbornly closed to the addition of a few other makes here and there.

With Spring Break hopping in Lake Havasu about 40 miles north, the attendees at AZ Rocks were more focused on exploring and crawling rocky canyons than cruising London Bridge. Parker is a unique riverside town in Arizona. It is a popular desert race locale and holds 150

years of history in and around old mining locations. The geology of this region is fascinating. The rocks and canyons range in color from tan to green to dark red.

This was the 15th year for AZ Rocks and the second year it has been based in Parker. Most participants camped at the La Paz County Campground, where tent camping and RV spaces are available. Many of the trails are no more than a handful of miles from here.

Another local site besides the wheeling trails is the Desert Bar, in an old mining

camp a few miles off the highway. Once a small, solitary structure, it has grown in size but still remains off the civilization grid in the remote desert.

If you missed the event this year, you may want to meet up with fellow Toyota fans next year. You can find more information about the event in the forums at rock-solidtoys.com.



2

1 Justin Waters' dad was working on Justin's 4Runner back home, so Justin had the chance to borrow his dad's truck. The flatbed rig is simple and effective. A 22RE engine powers through an A340 auto transmission with dual transfer cases. The 37-inch BFGs help the lightweight rig climb well.

2 Hats off to members of the the Parker 4 Wheelers who took time to lead us on some of the trails during the event. They know these routes backwards and forwards, and their help was much appreciated. Mike Reeves leads us in his Toyota based buggy down into a canyon at the start of the True Grit trail. The Parker 4 Wheelers hold an annual Poker Run & Desert Splash event in this area.



4



5

3 Jamie Jackson guides his Simple Green buggy up True Grit Trail. This route offers some good boulder crawling along with a couple of waterfall climbs.

4 John Dicus and Brian Calhoun took some optional lines on President's Choice Trail. They took turns wheeling Calhoun's truck, which had just been refreshed after competing in the KOH Everyman Challenge. These guys were out wheeling and working the truck hard again.

5 We had the pleasure to wheel with Marlin and Christine Czajkowski of Marlin Crawler fame. They crawl trails in their trusty first-generation truck with uberlow gearing. Who can argue with a rig and a driver who just plain gets it done with ease?



WHEELING AZ ROCKS 2015

6 Karlton Durkee descends a steep drop on President's Choice Trail. His 2001 Tacoma runs the stock V-6/auto drivetrain but turns 37-inch Goodyear MTRs. A solid axle has been swapped in up front and equipped with a Lock-Rite. In the rear, a Toyota electric locker helps with traction. Both axles are geared with 4.88:1 cogs.



6



7

7 Nate Wass has a unique Taco. He drove about 15 hours from Colorado to wheel the Parker trails in his 2000 Xtra Cab body sitting on a standard cab frame. He bobbed and shortened the bed to minimize the body exposure on this coiled and linked rockcrawler, which runs built Diamond axles.



8



9

8 George Otwell ran some of the harder trails in his 2001 IFS Taco. We were impressed with his driving and the capability of his MCM long-travel front suspension. It was set up with ADS coilovers, and the rear was modified with 3-inch All Pro leaf packs and ADS nitrogen bumpstops. With the 3.4L V-6 and auto tranny combined with 4.7:1 and 2.28:1 Marlin low-range hardware, this IFS truck could crawl surprisingly well on 38-inch Super Swampers.



10



11

10 Brian Ellinger of Front Range Off Road tried an alternative line near the Launch Pad in his Formula Toyota buggy. The line was steep and tall. Crawling was not really an option, so Ellinger made a number of attempts massaging the skinny pedal. Ellinger eventually grenaded the rear ring gear and then tumbled to the bottom of the fall. He took it all in stride and exited the rig with a big smile on his face.



11 On Friday we crossed the river into California and ran Longo's Curse. Jeff Weldon also had a well-built first-generation Tacoma with a long-travel kit. His 1999 IFS truck uses a Total Chaos kit and Fox coilovers with Tundra axle-shafts to widen the front track by about 7 inches. He's running 35-inch BFGoodrich Mud-Terrains to work his way through this tight notch.

12 This is mining country, and there are numerous remnants from past days. This area was known for copper, silver, and some gold mining from as far back as the 1860s. Some claims are still active today. We ran across this old building full of sorted dig samples. 🇺🇸



12

POWERED BY
BFGoodrich
 Tires

IDE

DRIVER • ENOUGH
 CHALLENGE

ENTHUSIASTS COMPETE
 IN THE ULTIMATE ON AND
 OFF-ROAD PERFORMANCE
 DRIVING COMPETITION.

MOTORTREND **FOURWHEELER**

BFGoodrich® Tires, MOTORTREND and FOURWHEELER invited performance driving enthusiasts to submit a short video proving he or she was indeed “driver enough” to lay down the fastest lap time behind the wheel of a 2015 Mustang GT and a 2014 Ford Raptor. Six winners were handpicked from around the country and flown out to Willow Springs International Raceway, just north of Los Angeles, to challenge themselves and each other behind the wheel. To make things even more interesting, another 50 local enthusiasts were presented with the opportunity to sign up through a microsite to partake in the event.

The Driver Enough Challenge consisted of a customized road course as well as a rough and demanding off-road track. The road course challenged participants through a series of fast straights, tight corners and a host of elevation changes. Adjacent to the road course, the rugged off-road track was designed to test the drivers’ skills behind the wheel on rough, rocky terrain.

In addition to a classroom “chalk talk,” professional driving instructors demoed the fastest lines around each respective course, and our challengers were also introduced to our celebrity BFGoodrich performance pro drivers who set baseline lap times on each course, thus setting the ultimate time to beat.

Brad Lovell has raced and won many off-road races including: Baja 1000, Ultra 4, TORC, and nearly every other off-road discipline. His on-road counterpart, Andrew Comrie-Picard, has won the North American Rally Championship, holds a string of 17 consecutive Rally America podiums and is an X Games Rally medalist.

Lovell and ACP weren’t the only two glitterati at the Driver Enough Challenge. Road racing legend

Tommy Kendall made an appearance, as did *Motor Trend*’s globetrotting Editor-in-Chief, Ed Loh. Additionally, Rick Péwé, Content Director of the *Four Wheeler* Network, offered his insight and tips for the off-road portion.

BFGoodrich® Tires took full advantage of the event to prove its tires were also up to the task at hand. The on-road course featured a group of brand-new 2015 Mustang GT’s

“CHALLENGERS WERE INTRODUCED TO OUR CELEBRITY PRO DRIVERS WHO SET BASELINE TIMES ON EACH COURSE”

fitted with g-Force™ Comp-2™ A/S tires, BFGoodrich® Tire’s best-ever, ultra-high performance all-season tire. The g-Force™ Comp-2 A/S™ rubber gave the challengers the ability to accelerate faster and brake harder in their quest for fast times.

The off-road course proved to be the perfect

setting for 2014 Ford Raptors outfitted with BFGoodrich® Tire’s All-Terrain T/A® KO2 meats. The All-Terrain T/A® KO2’s tougher sidewalls, gravel endurance and improved traction all worked wonders on the off-road course as they helped the drivers hook up and push ahead.

Once the dust settled and the track went cold, each challenger’s cumulative times and overall performance of on and off-road runs were calculated to determine our winners. Wade Koehl from Cypress, TX, came home with third, Gardner Nichols from Boulder, CO, took second place, and Mike Iler, from Redlands, CA, took home first place and won the grand prize of a new set of BFGoodrich® Tires.

Our pro drivers were astonished with Iler’s uncanny ability to lay down consistent, controlled and fast lap times, particularly as he doesn’t have any prior racing experience. Iler lapped the off-road course within a tenth of a second of Lovell’s pro lap time, and proceeded to beat the on-road pro by nearly a second!

The Driver Enough Challenge was such a success that similar events may be planned in the future. Think you’re driver enough? You might get the chance to prove it soon!



ROUGH COUNTRY

SUSPENSION SYSTEMS®

CHEVY GMC



2014-2015 1500 PU 4WD

2"	Front Leveling Strut Spacers	\$64.95
3.5"	Complete Kit w/Upper Arms	\$499.95
5/6/7"	Complete Kit w/N2 Rear Shocks	\$1199.95

2007-2013 1500 PU / SUV 4WD

2"	Front Leveling Strut Spacers	\$64.95
3.5"	Complete Kit w/Upper Arms	\$479.95
4.75"	Combo Kit-3.5" Susp/1.25" Body	\$549.95
5"	Complete Kit w/N2 Rear Shocks	\$999.95
6"	Complete Kit w/N2 Rear Shocks	\$999.95
7.5"	Complete Kit w/N2 Rear Shocks	\$999.95

2011-2015 2500HD PU 4WD

1.5-2"	Front Leveling Torsion Keys	\$119.95
5" / 7.5"	Complete Kit w/2.0 Shocks	\$1399.95

DODGE



2009-2015 1500 Ram PU 4WD

2.5"	Front Leveling Kit	\$129.95
3.75"	Combo Kit (2.5" Susp/1.25" Body)*	\$249.95
4"	Complete Kit w/2.2 Rear Shocks	\$1249.95
6"	Complete Kit w/2.2 Rear Shocks	\$1399.95

2014-2015 2500 Ram PU 4WD

2.5"	Front Leveling Coil Spacers	\$99.95
5"	Complete Kit w/Radius Arms	\$999.95

2003-2013 2500/2003-2012 3500 Ram 4WD

2"	Front Leveling Coils	\$179.95
2.5"	Front Leveling Spacers	\$99.95
5"	Complete Kit w/2.0 Shocks	\$699.95
5"	X-Series Kit w/Adj Arms & Shocks	\$899.95
5"	Long Arm Kit w/2.0 Shocks	\$1299.95

*2009-2011 models ONLY!

FORD



2015 F-150 4WD

2.5"	Front Leveling Strut Ext	NEW!	\$99.95
4"	Complete Kit	NEW!	\$1299.95
5"	Complete Kit	NEW!	\$1299.95
6"	Complete Kit	NEW!	\$1299.95

2009-2014 F-150 4WD

2.5"	Front Leveling Strut Extensions	\$99.95
4"	Complete Kit	NEW LOW PRICE! \$999.95
6"	Complete Kit	NEW LOW PRICE! \$999.95

2005-2015 F-250 Super Duty 4WD

3"	Complete Kit w/Front Spacers	\$379.95
3"	Series II Kit w/Coil springs	\$499.95
4.5"	Complete Kit w/2.0 Shocks	\$649.95
6"	Radius Arm Drop Kit w/Shocks	\$799.95
6"	4-Link Radius Arm Kit w/Shocks	\$1299.95

JEEP JK



2.5"	Coil Spacer Kit	\$139.95
2.5"	Coils w/shock relocation	\$249.95
2.5"	Coils w/Perf. 2.2 shocks	\$349.95 - \$329.95
3.25"	Coils w/Perf. 2.2 shocks	\$399.95
3.5"	Complete Kit w/N2.0	\$499.95
3.75"	2.5" susp. / 1.25" body (Auto)	\$419.95
4"	Complete Kit w/shocks	\$575.95 - \$499.95
4"	X-series Kit	\$1249.95 - \$1199.95
6"	X-series Kit	\$1339.95
4"/6"	Long Arm Upgrade Kit*	\$1199.95
4"	Long Arm Suspension*	\$1999.95
6"	Long Arm Suspension*	\$2099.95

JEEP TJ



0.75"	Leveling Spacers	\$39.95
1.5"	Coil Spacer Kit	\$199.95
2"	Coil Spacer Kit	\$129.95 - \$109.95
2.5"	X-series Kit w/X-Flex arms	\$949.95
3.25"	Coils w/N2.0 shocks	\$399.95 - \$369.95
3.75"	2" susp. / 1.25" body	\$429.95 - \$389.95
4"	Complete Kit w/N2.0	\$549.95 - \$499.95
4"	X-series Kit w/X-Flex arms	\$999.95
6"	X-series Kit w/X-Flex arms	\$1049.95
2.5"	Long Arm Suspension	\$1499.95
4"	Long Arm Suspension	\$1599.95
6"	Long Arm Suspension	\$1649.95

JEEP XJ



1.5"	Coil Spacer Kit	\$249.95
3"	Coils w/ N2.0 Shocks	\$255.95
3"	Series II Kit w/N2.0 Shocks	\$345.95
4.5"	Complete Kit w/N2.0	\$499.95 - \$459.95
4.5"	X-series Kit w/X-Flex arms-N2.0*	\$829.95
6.5"	X-series Kit w/X-Flex arms-N2.0*	\$899.95
4.5"	Long Arm Suspension	\$1299.95
4.5"	Long Arm Suspension*	\$1399.95
6.5"	Long Arm Suspension*	\$1449.95

*Includes new rear leaf springs

*2012-2015 models add \$190 to long arm kit cost

JEEP WJ/ZJ



1999-2004 WJ Grand Cherokee

2"	Coil Spacer Kit w/N2.0 Shocks	\$249.95
4"	Complete Kit w/Perf 2.2 Shocks	\$649.95
4"	X-series w/X-Flex Arms	\$799.95 - \$749.95
4"	Long Arm Suspension	\$1499.95

1993-1998 ZJ Grand Cherokee

1.5"	Coil Spacer Kit w/Shocks	\$205.95
3.5"	Complete Kit w/N2.0 Shocks	\$399.95
4"	Series II Kit w/arms & Shocks	\$599.95
4"	X-series Kit w/X-Flex arms - N2.0	\$779.95
4"	Long Arm Suspension	\$1499.95

NISSAN



2004-2015 Titan 4WD

2"	Front Leveling Strut Extensions	\$99.95
3"	Front Leveling Kit w/Upper Arms	\$349.95
4"	Complete Kit	NEW LOW PRICE! \$999.95
6"	Complete Kit	NEW LOW PRICE! \$999.95

2005-2014 Frontier / Xterra 4WD

1.5"	Rear Lift Shackles	\$64.95
2.5"	Front Leveling Strut Extensions	\$99.95
2.5"	Complete Kit	\$149.95

1986.5-1997 D21 Hardbody PU 4WD

1.5-2"	Complete Kit w/Upper Arms	\$339.95
--------	---------------------------	----------

TOYOTA



2007-2015 Tundra 4WD

2.5-3"	Front Leveling Kit	\$129.95
2.5-3"	Leveling Lift Kit w/rear blocks	\$169.95
4.5"	Complete Kit w/2.0 Rear Shocks	\$1249.95
6"	Complete Kit w/2.0 Rear Shocks	\$1299.95

1999-2006 Tundra 4WD

2.5"	Leveling Lift Kit w/rear blocks	\$269.95
------	---------------------------------	----------

2005-2015 Tacoma 4WD

3"	Leveling Lift Kit w/rear blocks	\$249.95
4"	Complete Kit w/2.0 Rear Shocks	\$999.95
6"	Complete Kit w/2.0 Rear Shocks	\$999.95

WWW.ROUGHCOUNTRY.COM



LED LIGHTING & MOUNTS - COMMAND THE DARK



SUPER DUTY 30" LED GRILLE KIT

Single 30" Cree LED Grille Kit \$314.95
Dual 30" Cree LED Grille Kit \$599.95



COLORADO 30" LED BUMPER KIT

Hidden Bumper Mounts \$59.95
Single Row 30" Cree LED Bar \$289.95



50"/54" UPPER WINDSHIELD KITS

Upper Windshield Mounts starting at: \$59.95
50"/54" Cree LED Bars starting at: \$449.95



2" Square Cree LEDs (pair) \$89.95
2" Square Flush Mnt Cree LEDs (pair) \$89.95
4" Round LEDs (pair) \$89.95



20" Straight Dual Row Cree LED \$219.95
30" Straight Single Row Cree LED \$289.95
30" Straight Dual Row Cree LED \$299.95



50" Straight Single Row Cree LED \$449.95
50" Straight Dual Row Cree LED \$499.95



40" Curved Dual Row Cree LED \$429.95
50" Curved Dual Row Cree LED \$549.95
54" Curved Dual Row Cree LED \$579.95

NERF STEPS - EASIER ACCESS TO YOUR TRUCK



WHEEL TO WHEEL & CAB LENGTH AVAILABLE

STARTING AT: \$319.95!

- Drop step design
- Solid one-piece construction
- Helps hide exposed frame
- Protection from road debris
- Corrosion resistant
- 3-year limited warranty

POCKET FENDER FLARES



- Smooth or Simulated Rivets
- Factory quality & appearance
- Easily paintable
- UV Protected to prevent fading
- 3-Year Limited Warranty

STARTING AT: \$299.95

NEW!

BED/TONNEAU COVERS

- Soft or Hard Folding options
- Tri-fold design
- No tools required
- Aluminum frame

SOFT: \$249.95

HARD: \$699.95



ELECTRIC WINCHES



9500LB [STEEL] \$299.95
9500LB [SYNTHETIC] \$449.95
12000LB [STEEL] \$399.95
12000LB [SYNTHETIC] \$549.95

ALL include **FREE** Wireless Remote

NEW!

BULL BARS

- 3-inch diameter tube
- Front end protection
- Corrosion resistant
- Pre-drilled holes for lighting
- 5-year Limited Warranty

STARTING AT: \$149.95



WE'RE OPEN LATE
FOR YOUR SHOPPING NEEDS

7AM - 10PM Mon - Thurs

7AM - 7PM Friday

All times are US Central Standard Time (CST)

8AM - 5PM Saturday

Closed Sunday

800-222-7023

A BOX FOR

TOOLS INEXPENSIVE STORAGE

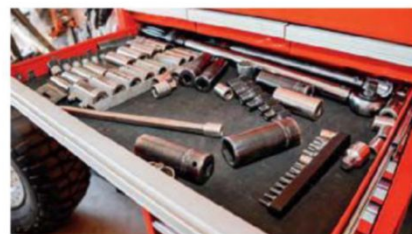
SOURCE

**HARBOR FREIGHT
TOOLS**
800.423.2567
harborfreight.com

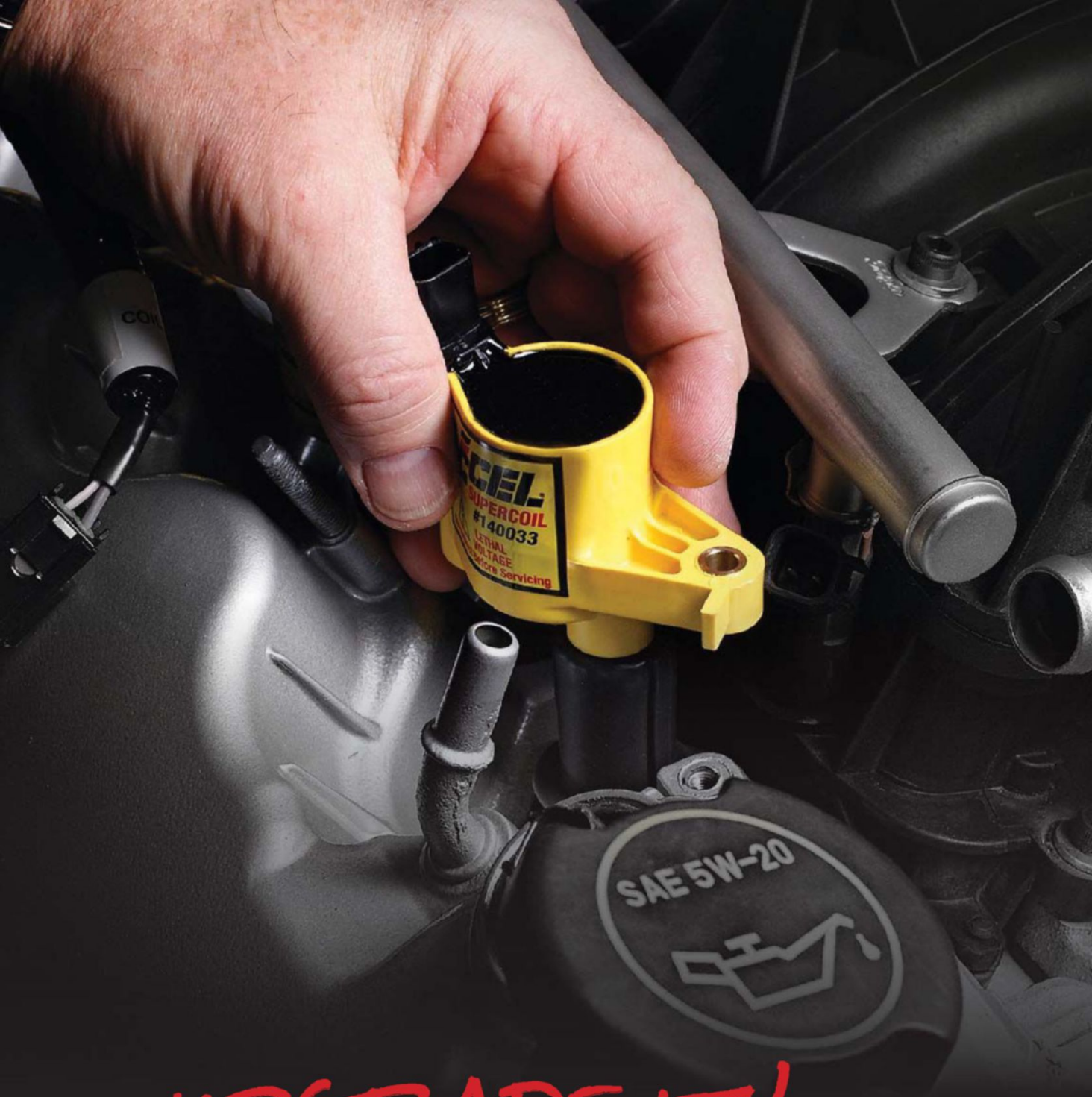
By Verne Simons

PHOTOGRAPHY: VERNE SIMONS

MOMMA SAID IF YOU want to be sure you'll find what you are looking for, give it a home and return it there when you're done with it. A safe solid easy-to-use tool storage cabinet is a great place to make a permanent home for our most used and valued tools. Like with tools, tool storage quality can vary, and we want things that do what they are supposed to do and last despite use that may border on abuse. You may assume that means that tool or storage is going to be expensive. Not so! We're here to say that our experience with this inexpensive U.S. General 26-inch, 16-drawer glossy red roller cabinet combo from Harbor Freight Tools has been a pleasurable one and it will continue. While some may accuse Harbor of producing cheap tools built to fail, that is not the case with this product. This toolbox is heavy-duty, well built, and inexpensive, much like Momma's son. 🍷



The U.S. General 26-inch roller cabinet is solid, and you can feel it. There is weight to the product, lots of steel and aluminum, and no plastic crap that will break off after a few years. The drawers have ball bearing slides that have a nice fluid feel even when carrying a heavy load. All of the drawers come with this durable foam liner that feels like felt. The top compartment closes, locking the drawers while the cabinet rolls on large wheels. To lock the cabinet just close the top lid and use the supplied key. The glossy red powdercoat finish is easy to clean (but may be attacked by some brake cleaner), and the drawers have aluminum pulls that are resistant to grease and solvents (including brake cleaner). The sides are a great place to make notes with a dry erase marker or store that magnetic tray.



UPGRADE IT!

SuperCoils deliver up to 15% more spark energy for maximum performance, economy, and throttle response.

ACCEL SuperCoils for LS, Hemi and Toyota are also available.
Visit accel-ignition.com for a complete application listing.



AS IT TURNS OUT, WHOOPSIES DO HAPPEN. PART OF WHAT MAKES 4-WHEELING so great as a hobby, past time, or lifestyle is the ability to get out into nature, away from modern society, while being somewhat self-sufficient. Sure, we all need to head back to town at some point for fuel, food, water, beer, or parts, but being out in the dirt is not only fun, it's good for the soul. Part of the experience is knowing what to bring so you can make it back before family or work gets mad or scared. We've made a life heading out into the unknown and so far have always made it back, even if there might have been an occasional delay. What we bring with us may not be an exhaustive list, but it is a pretty good start of what to bring to help you get started and get back from the trail.

**WHAT TO
BRING
WHEN
YOU HIT
THE TRAIL**

TOOLS FOR THE TRAIL

BY Verne Simons
PHOTOGRAPHY VERNE SIMONS



NATIONAL TIRE & WHEEL

1-800-847-3287

PACKAGE DEALS!!!

CALL FOR PACKAGE PRICE ON ANY TIRE & WHEEL COMBINATION. INCLUDES COMPUTER SPIN BALANCING, LUGS & CENTERS. HUGE SELECTION OF SIZES & STYLES.

5 Garden Court • Wheeling, WV 26003

Open 8 to 7 Mon-Fri - Sat 9 to 1

Tech 1-304-233-7917

DEALER
INQUIRES
WELCOMED

NTWonline.com

SUPER SWAMPER



IROK
RAD/BIAS

M-16
RADIAL

TRXUS MT
RADIAL

SSR
RADIAL

TRXUS STS
RADIAL



ATZ-P3

MTZ

STZ

TTC

DEEGAN 38



LTB
BIAS

TSL
RAD/BIAS

SX
BIAS

VORTAC
RADIAL

BOGGER
BIAS



FUN
COUNTRY

MUD
COUNTRY

TRAIL
CRUSHER

XMT
MADE BY COOPER

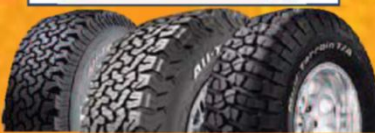


PRO COMP

NITTO

GRAPPLER

FEDERAL



KO
Buckshot
Mudder

KM-2

XAT

XMT2

OPEN COUNTRY

FIERCE ATTITUDE

TERRA GEN 2 EXO AWT

MUD

TRAIL

FEDERAL MT



MAXXIS

MT

AT II

RT

NEW MT

TRAIL BLADE MT

MADE BY COOPER

WILD PEAK

MUD GRIPPER M/T



THOUSANDS OF WHEELS AVAILABLE FROM THESE FINE MANUFACTURERS



HUGE INVENTORY OF THESE FINE SUSPENSION COMPANIES



CHECK OUR LOW FREIGHT RATES

This Is A Sampling Of Our Huge Inventory. CALL or CLICK!!

NTWonline.com

XRC GEN 2 WINCHES

STEEL SYN.
•4000 \$179 \$319
•9500 \$299 \$449
•10K \$399 \$549
•12K \$399 \$549
•15.5 \$499 \$599
•17.5 \$599 N/A

•M-1 BUMPERS
•JEEP BUMPERS
•JEEP TOPS
•XRC & SRC STEEL PRODUCTS
•RECOVERY GEAR
•ADD ON JEEP CAGES



Wheel Spacers
8 Lug Spacers
8X6.5, 8X170, 8X180,
8X200, 8X210
2", 3" & 4"
5 & 6 Lug 1.5", 2", 2.5"

Dually Wheels In Stock
16", 17", 19.5" & 20"

Profession
Installation
Available

1-800-847-3287

Walk-Ins Welcome 9-5 M-F/9-1 Sat • All Tires Plus F.E.T.

TECH LINE 1-304-233-7917 • FAX 1-304-233-2286 • TRACK ORDERS 1-800-391-1113
•NO returns after 30 days •NO returns on Special Order Items •All returns subject to 20% restock fee •Prices Subject To Change



1

1 Although some tools are vehicle specific, there are tools that you should bring no matter what you drive, such as first aid kits, common handtools, air-down tools, and a spare tire. We see a lot of Hi-Lift jacks mounted to off-road rigs these days. While they are awesome in a pinch, even factory bottle jacks have gotten us out of some bad situations. If you have a flat you should know how to use a jack. If you get stuck you can sometimes use any jack to get out. Even in sand or mud, put the jack on a flat rock, a piece of wood, or a floor mat and jack up the axle enough to shove rocks, sticks, or the other floor mats under your tires. Remove the jack, and with any luck you can drive out.

2 Box-end wrenches should be in any off-road gear bag. We used these hitch pins from our local hardware store to keep the wrenches somewhat organized and together as a group. We prefer 12-point wrenches (and sockets) since they are easier to get on the head of a hard-to-reach bolt. We carry both metric and standard wrenches because you never know what you'll need. Also, although certain metric and standard wrenches cross pretty well (like 13mm and 1/2-inch) and some folks would argue that you could leave one or the other at home, what if you need two box-end wrenches of the same size? If you've got both metric and standard, chances are something will work in a pinch.



2



3



4

3 For years we've been carrying heavy-duty tool bags rather than boxes. Either works, but the bags rattle less and conform to tight spots and uneven surfaces. They also won't beat up the interior of your rig as much when they wiggle. Either way, strapping down your bags or boxes is a must. If you're in an accident on the road or off, those tools, heavy bags, and boxes could kill you. We have used bungee cords, but ratchet straps are more secure. Bolt-in ammo cans or tool boxes in place is fine for tools or parts that are vehicle specific, but since we own many vehicles it's easier for us to move the tool bag and recovery bag between them.

4 Duct tape, zip ties, and bailing wire are all important for fixing things that might have come loose or gotten broken while on the trail. In most cases none of these tools yield a permanent fix but can be enough to get you off the trail. Other items that can help hold broken parts together in a pinch are band clamps and a length of chain with threaded rod, or bolts and a few nuts and washers. We've also seen steering boxes that were torn from the frame held in place with ratchet straps to get back to the trailhead, but chain and threaded rod to tighten it would be better. Either way, don't drive a trail-repaired rig down the road at speed. Your life and the lives of those around you are worth more than your time.

5 On the fancy end of trail tools are battery-operated electric impacts. We wheeled



5



6



7

for years without one of these, but ever since we bought one for ourselves a few years back it has been hard to imagine going wheeling without it. Our 18-volt 1/2-inch drive Milwaukee impact is incredible and has been beaten time and again. Add in a set of impact sockets and an extension, and many trail repairs go from being a huge headache to not being so bad.

6 We've spent time on the trail with guys who have every tool from home stashed in the back of their rig, including every battery-operated tool made. Carrying all the tools you need is important, but at some point you can overdo it and make your rig so heavy that you are guaranteed to break more stuff and thus need more tools and spare parts. We almost never bring an electric drill or electric saw on the trail, but if you've thrashed to get a new build ready or just added bigger tires, you may need one or both of these to help with clearancing and reattaching body parts to keep them from cutting tires. Either way, you should have checked these things out before hitting the trail, but if you're going to bring these, bring a uni-bit (rather than a full set of drill bits) for your drill and bring more than one blade for that battery-operated reciprocating saw.

7 Newer computer-controlled vehicles have many pluses and minuses. If your trail rig is equipped with an onboard diagnostic system (OBD I or OBD II) you need to bring a scanner tool and a list of trouble codes. Otherwise you



8



9

can bet that having a voltage meter and test light is more than just a good idea. Electrical systems can fail in many ways, and fixing them without these tools is next to impossible. You need to know what your rig may need and what it won't.

8 Speaking of electrical issues, bringing electrical tape, wire pliers, and maybe even a wire nut is a good idea for making trailside wiring repairs. We have even taken a butane-powered soldering iron into the boonies a time or two. It may be overkill, but it's small and lightweight and can be used to start a fire in a pinch. Also, it's not unheard of to repair leaks in copper or brass radiators out on the trail with solder and some sort of iron.

9 Bringing fluids with you should be obvious. The most important is to bring plenty of water for people and trail dogs. You also may need to replenish coolant or any number of other fluids on your vehicle while out on the trail. Some fluids are pretty specific to a part or system, such as brake and transmission fluids, but you can bet that if we are out on the trail and the differential or manual transmission runs dry we will add just about any oil-based fluid we have to help dissipate heat and provide some lubrication. Having said that, if your slushbox runs low on ATF you might want to send someone out for more rather than dumping other fluids into that delicate system.

BRIAN "THE GENERAL" DEEGAN

- Co-founder Metal Mulisha
- Decorated Freestyle Motocross rider
- 16 time X Games medal winner
- 6 time LOORRS Champion
- Global Rally Cross Racer

Brian Deegan

DEEGAN 38 WHEELS & TIRES

The new Deegan 38 wheels by Mickey Thompson, designed in cooperation with racing icon Brian Deegan, deliver the style you'll need for off-road adventure. Complete the look with a new set of Deegan 38 tires.



FOR A DEALER NEAR YOU, CALL
877-783-7208

Deegan38Tires.com



BE A PART OF THE LEGEND

TOOLS FOR THE TRAIL

10 A spill kit and a wag bag (portable toilet) are more than just good ideas; they're the right thing to do to help preserve the areas that we love and use. No one wants to wheel on an oil-soaked trail, and finding human waste on your person or vehicle is not only disgusting but a health hazard. If nothing else, bring a shovel and a small bucket or a plastic bag to clean up vehicular-based spills.

11 With toilet paper and a shovel you can, in certain areas where it is allowed, dig a poop pit. You need to be at least 200 feet away from any water source (animals drink there and you may need to drink there, too, if you get



10



11

25 YEARS OF PAINLESS ELECTRICAL SOLUTIONS

We've Made Our Reputation With Innovative Wiring Harnesses For Hot Rods, Classics and Race Cars. But Did You Know We Also Offer More Than 500 Unique Electrical Components Engineered To Make Your Build Faster and Easier?



Jeep JK Accessory Control Panel - Catalog Page 74



- Control up to 8 accessories such as lights, compressor, winch and more!
- Factory look, non-intrusive control panel with 5 LED rocker switches.
- Weatherproof Power Center housing keeps your circuits safe and dry.
- Custom bolt-on powder coated Power Center mounting bracket.
- Independent of the factory electrical system; won't void your warranty.

Compact Fuse & Relay Box Mounts Underhood



12



13



14

“A spill kit and a wag bag (portable toilet) are more than just good ideas”

All New 2015 Catalog Online At:
painlessperformance.com

PAINLESS

PERFORMANCE PRODUCTS

Find Your Dealer 800.54.WIRES

American Made



American Proud

FOR 25 YEARS

Tech Line 800.423.9696

4WHEELOFFROAD.COM

OUR TRAIL TOOLS

What do we keep in our trail bags? Here are the contents. Notable are a good set of snap ring pliers, locking pliers, pry bars, a breaker bar (we use a half-inch breaker bar with a 1/2- to 3/8-inch reducer as our fuse), a hammer (we've used rocks in the past, but they don't work as well), crosscutting pliers, and picks for removing locking hub retaining rings. We also bring plenty of screwdrivers of several types, any specialty tools (like torques bits for Jeeps), large sockets for pinion nuts, spindle nuts, or special customized wrenches for getting that custom driveshaft in and out. See the tarp the tools are on? Not only does it make a good blanket or tent in an emergency, but it's much nicer than lying on poky plants, gravel, wet soil, or mud.

WHAT TO BRING

- Adjustable pliers
- Adjustable wrench
- Air compressor, OBA, or CO₂ tank
- Bailing wire, duct tape, zip ties, band clamps
- Box-end wrenches
- Breaker bar
- Cotter pins
- Crosscutting pliers
- Drift
- D-ring shackles, a couple
- Fan or serpentine belt, extra
- Fluids for the vehicle
- Food and plenty of water (a gallon per person per day)
- Fuel line, extra
- Hammer
- Hex wrenches
- Locking pliers
- Pocket knife
- Pry bar
- Screwdrivers (different sizes and types)
- Shovel that folds
- Snap ring pliers
- Sockets, extensions, wobble joints, and ratchets
- Tire repair kit
- Towstrap

OPTIONAL, BUT A GOOD IDEA

- Axleshaft spares
- Axleshaft U-joint spares and retaining clips
- Ball joints
- Driveshaft spare
- Locking hub spare
- Nuts and bolts
- Pinion yoke socket
- Spindle nut socket
- Tarp
- Winch tools, controller, tree saver, snatch block

stranded). Then you need to dig a hole at least 6 inches deep (we'd say deeper, like 8-10). We poop first, wipe, and then urinate on the paper and then use the soil dug out of the hole to backfill. Then pile rocks on top of the filled hole. The urinating after wiping helps hold the TP in place and begins to break things down. If there is an outhouse, use it. Another option is to bring a bucket pooper and a wag bag. If you don't have toilet paper, good luck picking leaves that won't cause a rash.

12 Ratchets and sockets are also indispensable on the trail. We used to carry a full set of metric and standard deep sockets (5/16-7/8 inch) and a ratchet or two. Now we carry this small box of sockets and ratchets. Almost as important as having these tools is having the extensions and wobble joints or another way of holding the other end of whatever you are trying to loosen. A well-equipped trail tool set should mirror everything you do in the shop. After all, if you're rebuilding that transfer case or axleshaft at home you'd better be ready to take it back apart out on the trail when something goes wrong.

13 A spare tire, a jack, and even onboard air of some kind are all good things to bring. We also try to carry a tire repair kit like this one from Power Tank. It includes tire plugs, a plug insertion tool, needle nose pliers, a sharp knife, plug lubricant, and even a length of wire so you can stitch up any large punctures. It also has a couple of extra valve stems. Valve stems can get damaged and may need to be replaced in the boonies, but we've also used a valve stem and onboard air to clear a clogged fuel line.

14 Many 4x4s have a winch of one kind or another mounted on their front bumper. We prefer brands we know we can trust. Still, there are tools that make a winch usable. First, you need to know how to use your winch. Second, you need that controller, a tree saver, a towstrap, D-ring shackles, and a good set of heavy-duty gloves. We love these new gloves from Warn. They are durable yet comfortable and not as baggy and loose as the older style of winch gloves. Did we mention not to forget your winch controller? ☑

SOURCES

HI-LIFT JACK COMPANY
800.233.2051
hi-lift.com

MILWAUKEE
800.729.3878
milwaukeeool.com

POWER TANK
209.366.2163
powertank.com

WARN INDUSTRIES
800.543.9276
warn.com



FRAMELESS TRAIL TOP



The Frameless Trail Top installs over the original equipment factory roll bar for a snug fit without the need for additional bows or support hardware.

This unique design allows for larger side windows and increased outward visibility. Remove the side and rear windows to quickly convert the soft top into an open safari top. The fastback style offers improved aerodynamics and a quieter ride than factory bow-style tops. Available for JK - TJ - YJ Wranglers.

rampageproducts.com

FORD

A SIMPLE '66 FORD F-100

BY Verne Simons

PHOTOGRAPHY VERNE SIMONS

SOMETIMES WHEN YOU FIRST see a rig you think, *That's weird but I kind of like it!* That's what we thought the first time we saw Kris Foresee's 1966 F-100. We remember seeing this simple yet effective—and different—truck for the first time at the Tierra Del Sol Desert Safari several years ago. The bobbed bed-sides and trimmed front fenders stand out in our memory, as do the simplicity and functionality. The bed looks like it has parts from an early Bronco grafted to the sides, but those bedsides are just the factory parts chopped down and trimmed to clear older 35-inch BFGs. Up front, just enough of the factory sheet-metal is still there to keep our attention and that retro vibe.

We're into different because in this line of work it gets pretty boring after looking at the new Jeep built the same way as the last. Kris Foresee, a machinist from Frasier

TECH SPECS

1966 FORD F-100

>DRIVETRAIN

ENGINE: Ford 390ci V-8

TRANSMISSION: NP435 4-speed manual

TRANSFER CASE: Dana 20

FRONT AXLE: Ford high-pinion Dana 44 with 4.56 gears, EZ-Locker, and Warn locking hubs

REAR AXLE: Ford 9-inch with 4.56 gears and Detroit Locker

>SUSPENSION

SPRINGS & SUCH: James Duff coils and custom radius arms, Rancho shocks (front); General Spring leaf springs, Daystar bumpstops, Rancho shocks (rear)

TIRES & WHEELS: 35x12.5R15 BFGoodrich on 15x8 black wagon wheels

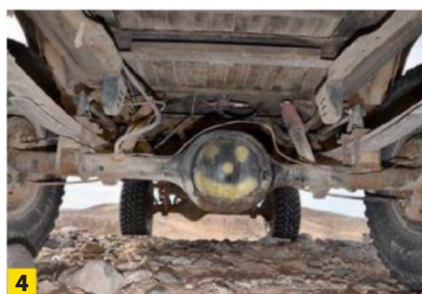
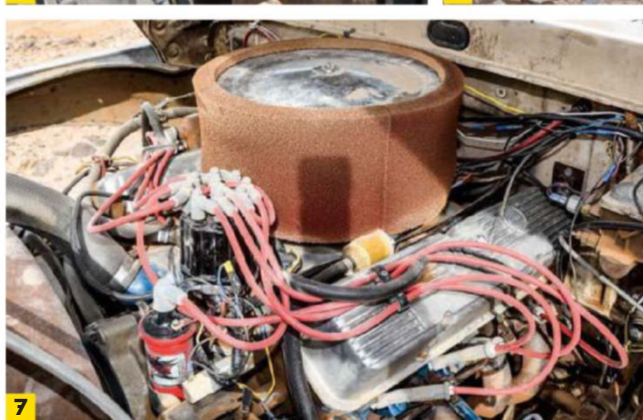
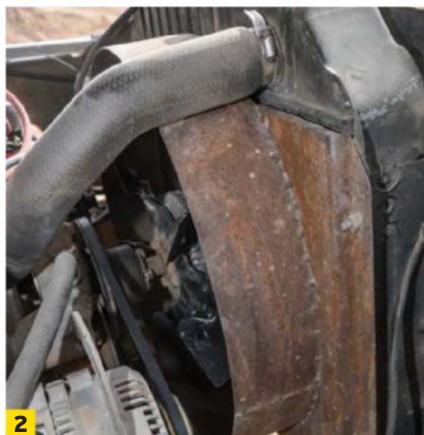
STEERING: Rod ends on custom draglink and tie rod, Ford power steering box, Rancho stabilizer

OTHER STUFF: Rollbar, KC HiLites lights, Jazz fuel cell, Optima YellowTop battery





1 That front bumper is made out of a chunk of 2x0.375-wall pipe that Kris had sitting around. Add on a pushbar and you've got a simple yet effective bumper. Stickers from TDS events of years past adorn the front bumper. Suspension comes from some old James Duff lift springs and custom rear leaf packs from General Spring. The front fenders of the 1966 F-100 were trimmed following the body lines. This gives a factory look and allows plenty of space for the front tires during articulation. The front axle is a gusseted high-pinion Ford Dana 44 with disc brakes from a late 1970s F-150. Stock axles turn thanks to 4.56 gears, an EZ-locker, and some old Warn locking hubs. Power steering directs the tires via rod ends and heavy-wall tubing. Black wagon wheels are wrapped with older BFG KM mud-terrain tires to get the V-8's torque to the ground. Simple yet effective.



Park, California, has built one unique Ford. The thing works pretty well too, with flexy suspension that helps the vintage sheet-metal up and over the notches and rocks in front of the truck.

This truck is not a polished show rig with tons of shop time, custom fab, and expensive parts to drool over. Not a one-off professional build yielding a truck that is worth more than the sum of its parts. It is simple and effective, built of parts that make sense without adding too many gadgets, frivolous parts, or weight. This yields a truck that is well used, reliable, and well loved. It doesn't have an expensive light bar or a fancy winch, but it does have towhooks and some good old KC HiLites attached to its retrorastic in-bed rollbar. What the truck also has is an engine that does what it needs to, a dead simple granny-gear transmission, axles that are just right for the tire size, two spares (used, with some life left in them), and good suspension. It has everything the owner needs, and it's unique.

Sure, we like buggies. Sure, we like custom-built expensive one-off rigs. But we also like low-buck trucks that work and are different. We like the fact that year after year we keep seeing this F-100 out at TDS, and we bet it will be there for years to come with Kris and his growing family. 📍

2 As said; a simple yet effective truck. If you need a fan shroud just make one out of some sheet steel.

3 Custom radius arms hold the Dana 44 front axle thanks to some modified frame brakes. Four Rancho shocks help dampen front axle movement. Tucked under the rockers a pair of Walmart special lights illuminate the trail for night wheeling.

4 Out back a happy and mainly stock Ford 9-inch holds 4.56 gears and a Detroit Locker. Daystar bumpstops and Rancho shocks play a role, while some custom antiwrap bars keep the General Spring rear leaf springs bend-free.

5 A Ford NP435 transmission is bolted to a twin-sticked Ford Dana 20 transfer case sending power to the front and rear axles. The Ford 390 exhales through some old headers and dual exhaust.

6 The F-100's bobbed bed is home to the tools of the trade. Two spare tires, plenty of

water, an old school roll bar, jazz fuel cell, a Yellow Top battery, cooler, straps, and a tool box.

7 Under the hood a Ford 390ci V-8 with a Pertronix ignition powers the truck. One huge air cleaner with a pre-filter gets the dust out of the air.

8 Somewhere along the lines a newer front seat was swapped into the truck. The dash wears a few Sunpro and Auto Meter gauges and a brake lever from an old mountain bike serves as a hand throttle. On the dash, more TDS Desert Safari stickers indicate the family's long involvement in the event.

9 Hi-Lift Jacks are more than useful on a trail rig. Need a place to mount one? Kris used a few bits of threaded rod, some nuts, and a piece of wood to secure his jack out of the way.

10 No tailgate? How about a 2 x 12 from the scrap pile in the side yard. Also check out that receiver mounted tow hook. That thing may be as old as the truck.



GETTING YOUR GEAR STOLEN

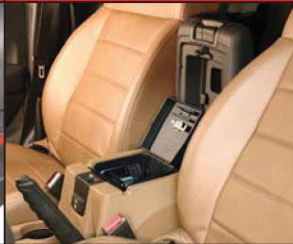
IS NO ADVENTURE

SECURE STORAGE COVER



The JK locking cubby cover replaces the existing flimsy cover that comes from the factory.

SECURE CONSOLE STORAGE



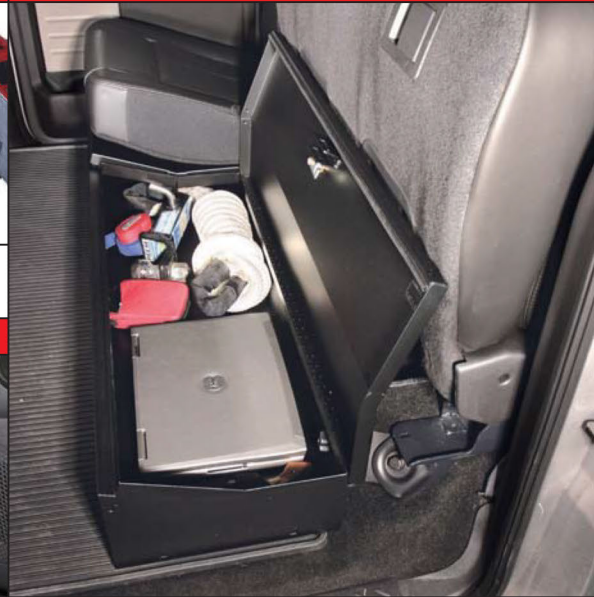
The security console insert turns the center console into a heavy-duty lockable storage area.

STEEL SECURITY DRAWER



The security cargo drawer slides on heavy duty roller bearings and can be securely locked.

TRUCK STORAGE LOCKBOX



The under rear seat lockbox secured contents are easily accessed by flipping up the rear seat providing thousands of cubic inches of secure storage under the seat out of apparent site of would be thieves.

CARGO SECURITY STORAGE



The JK security deck enclosure creates a large storage area completely protected on all sides.

CONCEAL CARRY SECURITY



The conceal & carry security drawer mounts inconspicuously under the seat out of sight of would-be thieves.

SECURITY GLOVE BOX



This steel glove box is a secure replacement for the plastic factory glove box.



SERIOUS THEFT PROTECTION

800.558.8339 | tuffypromoducts.com/4wor



VOODOO OFFROAD ROPES

OFF-ROAD KINETIC RECOVERY ROPE ^{7/8" x 20'-30'}

- ✓ 38,000 lbs breaking strength
- ✓ Stretches up to 38%
- ✓ 2 year warranty

AS LOW AS \$69

SPONSORS

FREE MESH CARRYING BAG

1.844.866.3661

www.voodooropes.com

By Harry Wagner

PHOTOGRAPHY HARRY WAGNER

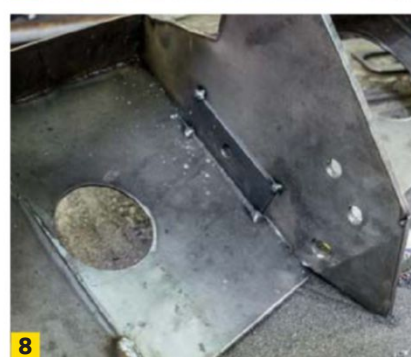
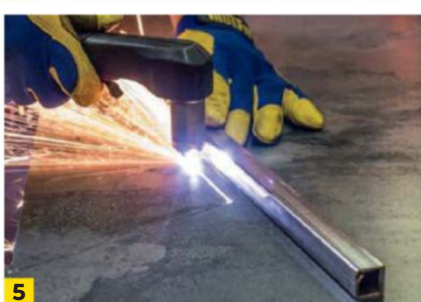
W E ONCE HEARD A parable that went, "Weld something for a man and he will wheel for a day, but teach a man to weld and he will wheel for eternity." Or something like that. When it came time to replace the factory bumper on his girlfriend's lifted Chevy Silverado, Dylan McFarlane didn't pick one out of a catalog. He built the bumper himself. While bumpers for Wranglers consisting of some box tubing can be found for under \$100, front bumpers to match the complex lines of the Silverado can cost north of \$2,000.

For that price you could buy the Miller Spectrum 375 X-Treme plasma cutter and Millermatic 190 Autoset MIG welder and still have money left over for materials and a bottle of gas for the welder. Of course you still have to consider the value of your time, and McFarlane has north of 30 hours in this bumper. You also need welding skills and an eye for fabrication to build a bumper this nice, but you aren't going to gain those skills by buying bolt-on parts for your rig.

BUY IT OR BUILD IT?

CUSTOM CHEVY SILVERADO BUMPER FABRICATION





“For the price of a bumper, you can buy a Miller welder and plasma cutter”

1 The factory Silverado bumper is 15 inches tall with multiple curved surfaces. Building a bumper to match the lines of the truck while improving the approach angle was going to be no easy feat. Now we understand why after-market bumpers command the prices they do.

2 These frame brackets are designed to keep the occupants of a low-slung car safe in the event of a rear-end collision. Unfortunately they also compromise approach angle and are quite unsightly with our new bumper, so they had to go.

3 We started with CAD (Cardboard Aided Design). Just like with most automotive projects, taking your time at the start and getting all the pieces right will pay dividends. We

cut out several different pieces and then taped them together. We spent over an hour trimming and moving cardboard until we were satisfied with the design and it was symmetrical.

4 We bought a 1/8-inch-thick sheet of steel and cut out each piece with our Miller Spectrum 375 X-Treme plasma cutter. It is rated for up to 3/8-inch mild and stainless steel and 1/4-inch aluminum and had no issues cutting through the sheet.

5 McFarlane used a piece of 1-inch box tubing to assist in making clean, straight cuts. If you don't have a plasma cutter you could take the templates to a shop and have them cut on a plasma table.

6 The cardboard templates were transferred to the plate and cut. Each piece is labeled with where it goes for easy assembly later.

7 After cutting the components, the edges were smoothed and the scale was removed. Don't skip this step. The scale keeps the metal from rusting, but will contaminate your weld if it is not removed.

8 We had the frame brackets cut on a plasma table. They are thicker than the rest of the bumper (1/4-inch plate), and we wanted them to be perfectly identical since the rest of the bumper would build upon these brackets.

9 Modern inverter technology allows the Millermatic 190 to weld up to 5/16-inch-thick steel in a single pass, while only weighing 35 pounds. The drive system is aluminum—no plastic parts here—ensuring that it will last a lifetime for the garage fabricator.

BUY IT OR BUILD IT?



10



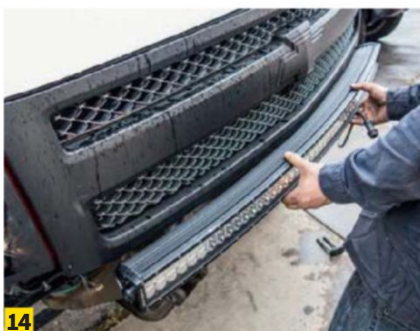
13



15



11



14



16



12



17

10 Prior to burning in the welds we tacked the bumper together. This allowed us to ensure that there were no gaps and the bumper was symmetrical from side to side. Too much heat in one concentrated area also has the potential to warp the bumper.

11 The Autoset feature on the Millermatic 190 makes it easy to lay down good-looking welds. All you have to do is set the wire diameter and material thickness and the Millermatic 190 does the rest. If you prefer to set the voltage and wire speed manually, you still have that option.

12 Ask any welder and they will tell you the importance of a good helmet. You want to find a helmet that is comfortable and affordable with the largest viewing area possible. Miller's Digital Elite auto-dimming helmets have a 9.2-square-inch viewing area and offer four operating modes to suit whatever your needs might be.

13 After some fine tuning, trimming plates, and eliminating gaps, McFarlane burned the bumper together inside and out. Flap discs were used to smooth the outside welds prior to powdercoating the bumper.

14 We have used Rough Country lift kits for years; in fact, the Silverado in this article has Rough Country's 6-inch suspension system. It wasn't until we saw an ad in this very magazine though that we learned Rough Country offers LED light bars at very reasonable prices.

15 Ninety-six individual Cree 3-watt light emitting diodes make up the 50-inch curved Rough Country LED light bar. Note the combination of smooth and dimpled reflectors that allow this light bar to operate as both a spotlight and floodlight at the same time.

16 Recessing the curved 50-inch Rough Country LED light into the bumper does an excellent job of breaking up the large surfaces required to cover the front of the Silverado. Oh yeah, it puts out 23,040 lumens to light up those dark backcountry roads.

17 Few things can match the pride of saying "I built that" when someone compliments your rig. And tools like welders and plasma cutters are an investment that will pay dividends on projects in the future. 

SOURCES

MILLER ELECTRIC
920.734.9821
millerwelds.com

ROUGH COUNTRY SUSPENSION SYSTEMS
800.222.7023
roughcountry.com

MICKEY THOMPSON®

PERFORMANCE
M/T
TIRES & WHEELS

BAJA ATZ^{P3}

The Baja ATZ^{P3}™ has a unique “hybrid” design between an all-terrain and mud terrain to give you the grip you need for your weekend adventures and the smooth ride to get you down the road in comfort. Features an extra wide footprint and beefy tread blocks for great all around traction.



SHOP, COMPARE, SAVE.
Click the “Buy Now” button at
MickeyThompsonTires.com.

NEW M/T METAL SERIES WHEELS & DEEGAN 38 WHEELS AVAILABLE!

MM-164B

NEW!

MM-164M

NEW!

MM-245

NEW!

MM-366

NEW!

MM-489

NEW!

CLASSIC BAJA LOCK™

CLASSIC III™

CLASSIC III™ BLACK

SIDEBITER® II

DEEGAN 38 PRO 4

DEEGAN 38 PRO 2

BAJA STZ

NEW BAJA ATZ^{P3}

BAJA MTZ

BAJA CLAW TTC

NEW DEEGAN 38

50K
LIMITED
TREADWEAR
WARRANTY

For a dealer near you, 866-943-6729 • MickeyThompsonTires.com

by Verne Simons
PHOTOGRAPHY VERNE SIMONS

IF YOU ARE AT ALL INTO HOME fabrication you know about and want a MIG welder, a plasma cutter, a tubing bender, or a plasma table. These tools are flashy and seem at first glance to be what separate the true metal fabricators from your average Joes. The truth is a MIG welder is critical to any amateur fabricator, but if you had to you could weld with the proper welding rod, jump-

er cables, and a few batteries. Yeah, the welds are going to look like poop, but in a pinch it can work. Plasma cutters and plasma tables are amazing tools that can, when used properly, save a fabricator a bunch of time and money. Same goes for tubing benders. But if you don't know how to use these tools, they all can be a great way to waste steel, time, and money.

There are several unsung heroes of the fab shop. What fab tools do professional fabricators use that are not so flashy and thus get forgotten when it comes to DIY fab stories in your favorite 4x4 magazine? The 4½ angle grinder, metal band-saw, chop saw, disc sander,

hydraulic press, iron worker. These tools, with a little knowhow, can be used to make some amazing components that in the right hands push the border between functional parts and vehicular art.

At *4-Wheel & Off-Road* we love tools, and we love the sense of gratification that comes from doing something ourselves. While we are not masters of all before us, we know that the right tools and knowledge of how to use them make all the difference. We also like to save cash, and we know who to ask about a given tool when we are in over our heads. The best part is we are here to show you, the 4x4 enthusiast, these unsung tools and give you tips on how they work.

**THE UNSUNG
TOOLS OF 4X4
FABRICATION**

**FAB
SHOP
HEROES**





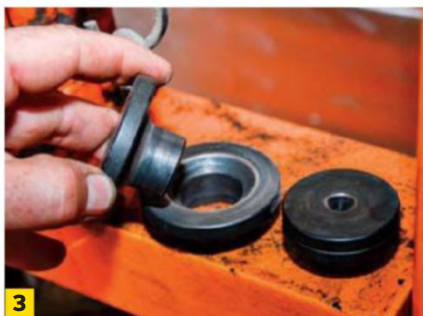
1



4



2



3



5



6

HONORABLE MENTION

- Bench grinder
- Chop saw
- Hammer
- Locking pliers
- Lathe
- Mill

1 The best, most expensive tools in the world won't make you an amazing fabricator. While cheap tools can cause problems, skill and experience are of paramount importance. Simple tools when used correctly are awesome. The hacksaw is one tool that gets overlooked a lot. Use long slow strokes that use the entire length of the blade. Also, letting the saw blade do the work by not forcing it into the material you are cutting makes a big difference. Short quick strokes while pressing down hard are neither faster nor yield a better cut.

2 Angle grinders in both the 4½ inch electric or pneumatic flavors are critical. We love our 4½ inch grinder with a flap wheel for most applications, but a small pneumatic grinder with a sanding disc is awesome for cleaning up welds and deburring edges after cuts or drilling a hole. Sanding discs and flap wheels come in different "grits"; you'll want a rough, low-number grit for removing lots of material and a smoother, high-number grit for smoothing and polishing the metal. Stone grinding attachments are also useful for both, as are wire wheel brushes and Scotch Bright style discs. If you want nice welds from that MIG or TIG, metal prep is critical. See the welding table the grinders are on? It's also a critical part of any metal fab shop.

3 A hydraulic shop press is also a very helpful tool in the fab shop. Besides the expected uses of pressing things together or apart, there are many other tools that when combined with a press can make the difference. For example, with a hole saw, a drill, and the proper dies you can add fancy dimple dies to your fabricated parts. Most fab guys also have a metal brake that can be added to a shop press. Swag Off Road sells both a dimple die set and a few metal brake conversion kits.

4 A band saw that is built to cut steel (rather than wood) is an amazing tool for making brackets and tabs. If you don't have a plasma cutter or plasma table and can't afford one, the metal band saw is a good alternative.

5 A good vise is an indispensable tool for any fab shop or general shade tree 4x4 mechanic. We beat and pound on this awesome old vise that a friend gave us for free. Stout vises are pretty hard to find and can be difficult to find parts for, but the old American-made vises are built to last. You may be able to pass a good vise down to your grandchild. In a pinch you can use a vise for hundreds of things, including as a rudimentary break to bend steel up to about 90 degrees.

6 A belt or disc sander can help speed up metal fabrication. You can use it to clean up cuts from that band saw or hacksaw. According to fabricator Rob Bonney, quality sanders can also be used to cope tubing and or remove material for fine-tuning fitment and will allow you to feed steel into the disc or belt without slowing or stalling. Bonney recommends using 36-grit paper. 

SOURCES

ROB BONNEY FABRICATION
602.370.7955
facebook.com/pages/Rob-Bonney-Fabrication/193559750764429

SWAGG OFF ROAD
541.915.2775
swagoffroad.com

HYDRAULIC IRON WORKER

We've fallen in love with this old piece of American history. It is Rob Bonney's old Scotchman iron worker. It requires a three-phase inverter and is not perfect for everyone, but it does some pretty amazing things. You can use it to punch holes in steel plate and to shear angle iron and plate (including ½-inch bar up to 3 or 4 inches wide), and with dimple dies you can dimple holes for that racy look. Bonney's Scotchman needed some work and was not perfect, but it works well and is built to last.





BY Jerrod Jones

PHOTOGRAPHY: COURTESY OF BANKS POWER

TOO MANY 4.0L WRANGLER owners have a Fifth gear (or overdrive gear) that is collecting dust, not having been used since the Jeep had stock tires. Adding bigger tires, axles, and body armor can all weigh your rig down. It sucks to be stuck with lackluster power after you've spent thousands of dollars on everything else. Why wouldn't you spend another few grand on some serious power improvement?

In the case of a V-8 swap, however, there are a couple reasons why this is not a good plan. First, a "good" fuel-injected V-8 swap costs a few thousand dollars. Adapters and/or transmissions and T-cases will be needed. New drivelines need to be made. Crossmembers and oil pans have

JEEP SIDEWINDER TURBO

DON'T SWAP THAT 4.0L —TURBOCHARGE IT!

1 The Jeep 4.0L turbocharging system comes complete with the Sidewinder turbo, a Big Head wastegate, a Banks throttle plate, an Exclusive Ram-Air intake, and the 2½-inch aluminized tubing that's necessary to plumb the turbo into the intake and exhaust systems. A new serpentine belt is also included, as is a flash programmer to make your stock Jeep ECU perfectly control your turbocharged 4.0L engine. The intercooler kit is easy to install and comes with all required fasteners, brackets, preformed hoses, and sealed power harness connectors. The system is made to outlive your Jeep. Considering how long the 4.0L engines last, that's really saying something.



2



3

“If you’re still not satisfied, the next (legal) thing you can do is the best thing: Turbocharge it”

to be modified. The list goes on. Depending on where you live, there can be tricky hoops to jump through to legalize your engine swap. Doing a swap in a county that tests for emissions means that you’ll be getting to know your local smog referee intimately to certify your swap as legal. While they have a written set of general guidelines, every referee is human, which means he’s not perfect and certain things are open to personal interpretation.

There are stroker kits you could try and squeeze by the emissions test with. But name how many guys you know with 4.7L or 4.9L stroker kits that make more power and that don’t have any problems.

If you’ve bought the bolt-on air intake, the throttle body spacer, the ignition kit, and a mild cam and you’re still not satisfied, the next (legal) thing you can do is the best thing: Turbocharge it. Starting at a few thousand dollars, the Banks Sidewinder 4.0L turbocharging kit can legally



4



5

2 The Sidewinder turbocharger has an integrated wastegate and compressor bypass valve. It’s a smaller turbine housing, sized for maximum and immediate response on a 4.0L engine. The compressor bypass valve recirculates boosted air back to the inlet so the turbo breathes more easily and the wheel speed can stay up to eliminate surging when the throttle is closed. An optional bypass spacer would dump hot air externally, quicken response, and create an unmistakable sound.

3 Since the turbocharger sits directly below the alternator once installed on a 4.0L engine, the alternator actually has to be moved up just a bit. Banks provides a cast iron mounting bracket to secure the turbine housing to the engine instead of hanging it off the exhaust. It also gives a new mounting point for the alternator.

4 The weld-in oil drain bung is the only step of the installation that requires more than simple handtools. The oil drain line heads straight down from the turbo into the oil pan to keep the line short and up out of harm’s way. The plastic black tube heading into the turbo inlet is the turbo-specific Ram-Air intake with the through-the-hood Super Scoop.

5 Supplied 2½-inch aluminized exhaust tubing interrupts the factory exhaust after the Y coming down from the exhaust manifold. It



6



7



8

expels gases directly to the turbo, while new tubing is also supplied to meet up to the factory muffler and remaining exhaust system.

6 The turbine housing is wrapped with protective aluminized blanket that keeps heat energy inside the turbo and prevents heat-soaking the surrounding components under the hood.

7 The stock throttle body remains but an adapter plate (also compatible with aftermarket throttle bodies) is bolted between the intake manifold and the throttle body. It gives a port for a new two-bar MAP sensor and provides necessary vacuum/boost port connections.

8 While you may choose to install the Sidewinder 4.0L turbocharging kit yourself (which is totally possible thanks to the included flash programmer) you can also drop your Jeep off at Banks to have a turnkey installation done for you. You drive in, drop off your Wrangler, a complete installation and all tuning is done for you, and you drive home with a 60 percent power increase. By the time you read this, there will also be new JK Wrangler Sidewinder kits for 2007-2014 3.8L and 3.6L V-6 engines. Earlier generation (pre-1999) 4.0L Wrangler turbo kits are being currently investigated by Banks Engineering, and there is talk of XJ Cherokee turbo kits as well.



ADD 102 HP WITH AN INTERCOOLER

The Sidewinder Turbo kit by itself adds a healthy 66 rwhp to your 4.0L engine by itself, and will run perfectly long all day long. But you can choose to cool the air charge for even more power. The intercooler increases responsiveness of the system even more, with a 50 lb-ft gain over stock as low as 1,600 rpm. Smooth drivability and linear throttle response are maintained for on- and off-road control, yielding steady power output even under extreme ambient temperatures. All that and the charge air temps are even cooler than stock, even with a small increase in boost over the base kit, allowing more efficient spark timing both on-power and while cruising.

produce V-8 power in an otherwise stock inline-six Jeep 4.0L engine. The Sidewinder package comes with everything you need to add an additional 66 rwhp with forced induction to your TJ or LJ. With the optional liquid-to-air intercooler kit, a 102-rwhp gain can be achieved thanks to more oxygen-rich air due to a cooler air charge. Using the included flash programmer to reprogram your ECU, you can install a 50-state street-legal Sidewinder turbo kit in your driveway in a full weekend.

Sidewinder kits are currently available for 1999-2006 Jeep 4.0Ls. And this is only in Wranglers (sorry, XJ Cherokee guys). But rumor has it that there will be a race-only universal 4.0L turbo kit under Banks' Outlaw brand soon enough.

After driving a Sidewinder turbocharged Wrangler over the Colorado Rockies all the way to Illinois (and back) for Ultimate Adventure 2014, we can attest that this turbo kit has more than proven itself reliable, durable, and powerful. The 4.0L Sidewinder's turbo response is immediate, and there is no lag time making a ton of power continuously without spiking coolant or oil temperatures. Our test 4.0L is loving its forced induction complement and has every indication of running smoothly for another 100,000 miles. 

SOURCE

BANKS POWER
800.601.8072
bankspower.com

9 A Sidewinder 4.0L turbo kit will look this nice once installed. The powdercoated boost tube over the engine has an $\frac{1}{8}$ -inch NPT port for the addition of a water/methanol injection system, should the owner desire one. If an intercooler is added at the time of turbo installation (or later), the intercooler and two shorter boost tubes will be installed.

10 Fifty-state legality makes a big difference. While a lot of guys live outside emissions-testing counties or use their vehicle for "off-road only," a good majority of us have to worry about emissions legality and would prefer to keep our Jeeps running cleanly. Banks was sure to get the CARB EO (California Air Resource Board exemption order) numbers to verify that all the Sidewinder Jeep turbo kits are legal for sale and use anywhere in the United States.

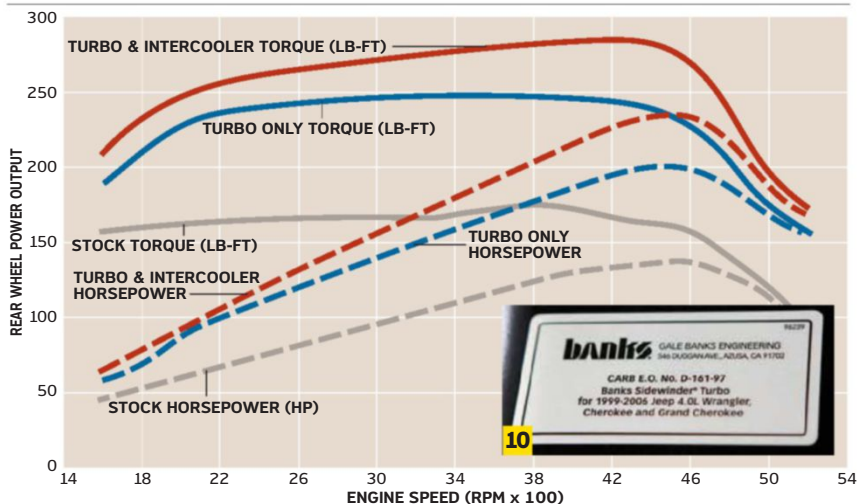


HOW DOES IT PERFORM?

We spent a lot of time using the Sidewinder turbocharger kit on the Ultimate Adventure in a 2005 Wrangler Unlimited with 37-inch Trailer Grapplers and a ton of body armor. Even driving over the Colorado Rockies at high altitudes, packed with camping gear, the turbocharged Wrangler was holding gear in overdrive (automatic transmission) at over 70 mph while engine temperatures kept cool. Power in off-road situations came on immediately. The small turbo spooled up quickly with almost no lag time. We never saw the temperature spike to more than 218 degrees, and we think that was probably a small air pocket since the coolant temperature immediately came back down.



STOCK POWER VS. SIDEWINDER TURBO WITH INTERCOOLER



AMP RESEARCH

Innovation in Motion™

PowerStep™

- Automatically extends when the doors open
- Retracts snug to the rocker panel when doors close
- Zero loss of ground clearance
- Integrated LED light system
- 600 lb load capacity (each side)
- 5-year/60,000-mile warranty

AMP-RESEARCH.COM

INVENTED, ENGINEERED AND MANUFACTURED IN AMERICA

INCREASE TORQUE AND OFF-ROAD PERFORMANCE WHEN YOU NEED IT THE MOST!



GET UP TO
40%
INCREASE IN
HORSEPOWER

GET THE POPULAR E-FORCE SUPERCHARGER FOR YOUR PENTASTAR EQUIPPED JK! DESIGNED FROM THE GROUND-UP, IT UTILIZES THE EATON® 1320 TVS ROTOR ASSEMBLY FOR MAXIMUM EFFICIENCY...IN A COMPACT PACKAGE!

FREE
LIMITED POWERTRAIN
3 YEARS
36,000 MILES
WARRANTY

OUR LIMITED POWERTRAIN WARRANTY WILL PAY UP TO \$16,500 TO COVER THE COST OF PARTS AND REPAIRS FOR ENGINE, TRANSMISSION AND REAR AXLE COMPONENTS SHOULD ANYTHING HAPPEN.

NOW YOU CAN OUTFIT YOUR RIDE WITH AN E-FORCE SUPERCHARGER AND HAVE THE PEACE OF MIND THAT YOU'LL BE COVERED! FOR MORE COMPLETE COVERAGE DETAILS AND A LIST OF ELIGIBLE SYSTEMS, VISIT WWW.EDELBROCK.COM/EFORCEWARRANTY



- * BOLT-ON INSTALLATION
- * MINIMAL DECREASE IN FUEL ECONOMY
- * 50-STATE EMISSIONS PENDING
- * SELF CONTAINED OIL SYSTEM
- * DESIGNED, CAST AND MANUFACTURED IN THE USA

FOLLOW US ON:



FOR MORE INFORMATION VISIT EDELBROCK.COM

FREE CATALOGS: 800-386-8326 • TECH LINE: 800-416-8628, 7am-5pm PST. M-F.

ALL PARTS LEGAL FOR USE ON PRE-POLLUTION CONTROLLED VEHICLES ONLY.

©2015 EDELBROCK, LLC

Edelbrock

PASSION FOR PERFORMANCE

ULTIMATE SUMMER CAMP JEEP

**PART 2: POWER, GEARING,
GEARING & DROOP**

**ULTIMATE
ADVENTURE**
2015 





1



2

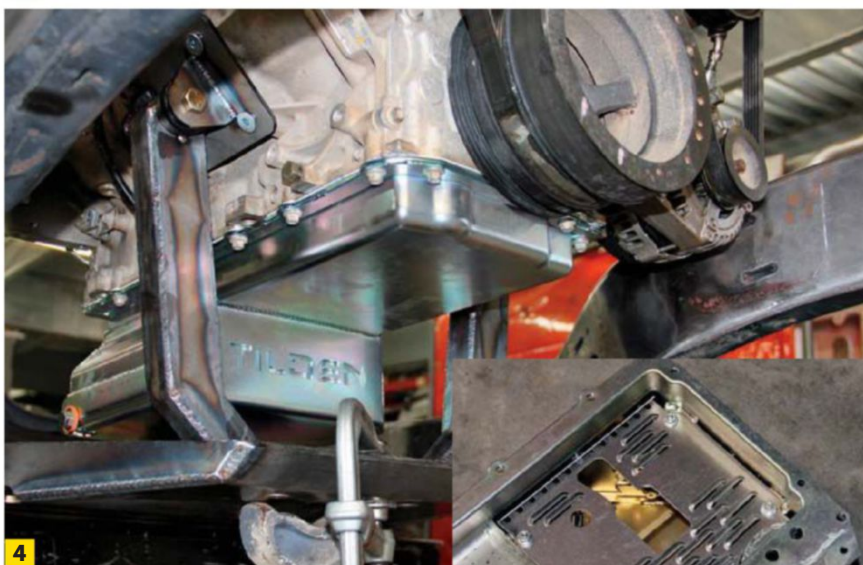


3

1 We like to recycle, and so we decided to reuse these parts from other project vehicles. The engine is the Chevy Performance LSA supercharged 6.2L V-8 we had in the Alabama Army Truck. That truck was getting a transmission swap, but when we hit a few speed bumps we decided to rethink the project and the little jeep seemed like a better home for the 550 hp. The two Spidertrax axles in the background are from our double-ended Jeep JK (Ultimate Orange Jeep) we built for the 2012 Ultimate Adventure. That Jeep got a set of Dana axles recently, so we decided that these lightweight Spider-9s would be just right under the new project.

2 We didn't want to add rear steer to this jeep (at least not yet), so we opted to reuse the front Spidertrax axle and build a straight 9-inch for the rear. The rear axle uses the same ultimate unit bearing as the front, so we will reuse those parts and the brakes off the rear-steer axle. We'll have more axle buildup coverage in the future.

3 The Synergy team designed a set of motor mounts for the LSA out of TIG-welded chromoly plate that will attach to the JK frame and arc up high to clear the upper suspension link at full compression. The engine is centered in the frame and leans back approximately 5 degrees.



4

4 On the bottom of the LSA we added a Tilden Motorsports oil pan. These steel fabricated pans offer high-clearance front axle movement, and a baffled sump to more constantly feed the oil pump during off-road use.

BY Fred Williams
PHOTOGRAPHY FRED WILLIAMS

ULTIMATE ADVENTURE IS OUR annual event when a group of selected readers, sponsors, and staff cover roughly a thousand miles on a fun summer road trip and 4-wheeling journey. Every year we build a vehicle as the official UA project vehicle. This year we're building a hot rod trail Jeep to take on our weeklong off-road adventure.

Back in the 1940s the military wanted a vehicle similar to the flatfender MB jeep that it was using, but a little bigger. Willys built two prototypes. They were known as the MLW2, for Military Long Wheelbase version 2. The Ultimate Summer Camp Jeep is what we call the third prototype, MLW3B, for Militaryish Longer Wheelbase version 3B. This is our official buildup vehicle for Ultimate Adventure 2015, and it is growing fast.

In the past we have built new vehicles and old vehicles for the UA, but this is an all-new old vehicle. It is starting as a newer Jeep frame and a built-from-scratch Aqualu aluminum Jeep tub. The tub was built starting with a CJ-3B-style body but then stretched almost 2 feet and given a larger door opening, and a longer tub with a wider bed to fit a fullsize spare. To motivate the little Jeep, we stole parts from other project vehicles we have had in the stable and stuffed them all together to make a pretty wacky machine. The entire project was put together at Synergy Manufacturing, the official fabricator of the 2015 Ultimate Adventure.





7 About this time our Aqualu tub arrived in a giant crate. The bodies are made in Canada and can be shipped to your door if you're ready to replace that rusty Jeep or Toyota body on your own project.

8 If you have 550 hp and a strong transmission, you need a beefy transfer case to send that power to both axles. The guys at Offroad Design recommended their Magnum 205 gear-box and doubler. We're using a Ford transfer case with the driver-side front output. The doubler gives us four transfer case gear ratio options: 1:1, 2:1, 2.72:1, and 5.33:1. Multiply that by our axle's 5.40:1 ratio and 2.48:1 First gear in the transmission, and we have a whopping 71.37 crawl ratio. That should be good.

“This is an all-new old vehicle”



5 Behind the big power of the LSA we are putting in a built 4L80 transmission from Gearstar. These transmissions are built for the power and abuse we plan on dishing out and come shipped to your door ready to bolt in. We'll be running the transmission fluid through a Ron Davis heat exchanger to keep it cool and using a Chevy Performance transmission controller to make it run and drive.

6 The transmission will feed power down to our Spidertrax axles, where we have a set of GearWorks high-pinion 10-inch differentials. The front differential has a GearWorks locker, and the rear is a spool. This should give the Jeep tough, reliable, no-frills traction with a massive gearset.





discounttiredirect.com

off road
YOUR JOURNEY STARTS HERE

FREE SAME-DAY SHIPPING! Some restrictions apply.

GENERAL TIRE

COOPER Tires

YOKOHAMA

HANKOOK

HANKOOK

NITTO

NITTO

NITTO



Grabber AT2

STARTS AT \$109



Discoverer AT3

STARTS AT \$112



Geolandar A/T-S

STARTS AT \$113



Dynapro ATM

STARTS AT \$110



Dynapro M/T

STARTS AT \$128



Terra Grappler G2

STARTS AT \$167



Trail Grappler M/T

STARTS AT \$233



EXO Grappler

STARTS AT \$254

FALKEN

FIERCE

GOODYEAR

BF Goodrich

BF Goodrich

PRO COMP

MICKEY THOMPSON

MICKEY THOMPSON



Wild Peak A/T

STARTS AT \$115



Attitude M/T

STARTS AT \$156



Wrangler Duratrac

STARTS AT \$177



T/A-M/T KM2

STARTS AT \$177



T/A-AT K02

STARTS AT \$190



Xtreme MT2

STARTS AT \$190



Baja MTZ

STARTS AT \$192



Baja ATZ P3

STARTS AT \$200



LEVEL 8
motorparts

STARTS AT

Bully Pro \$169 per wheel

Each set of Level 8 Pro Series wheels comes with bolt-on scratch guard rings, zinc-plated lugs, red metal hub rings and an air deflator.

We have shocks, lift and leveling kits, and accessories!

PRO COMP

FACTOR 55

SMITTYBILT

KC KC HILITES

TERAFLEX

POWERTANK

VISION

MB WHEELS

MB WHEELS

MB WHEELS

MB WHEELS

LEVEL 8
motorparts

LEVEL 8
motorparts

PRO COMP



Warrior

15" STARTS AT \$85



TKO

15" STARTS AT \$99



Chaos

15" STARTS AT \$100



352

16" STARTS AT \$125



11

15" STARTS AT \$145



Punch

15" STARTS AT \$105



Guardian

16" STARTS AT \$110



31 Series

15" STARTS AT \$117



7S

15" STARTS AT \$119



Tuff

15" STARTS AT \$119



Bandit

17" STARTS AT \$129



Regulator

15" STARTS AT \$135



Raptor

16" STARTS AT \$129



The Standard

15" STARTS AT \$139



Fury

17" STARTS AT \$168



Moab

17" STARTS AT \$176

discounttiredirect.com

800.589.9643

M-F 8 a.m. - 9 p.m. EST SAT 9 a.m. - 6 p.m. EST

DISCOUNT
TIRE DIRECT



9



12



10



11



13



**DIESEL
HIGH PERFORMANCE
AUTOMOTIVE
ALTERNATE FUELS
& MORE!**



UNOH
UNIVERSITY OF NORTHWESTERN OHIO

ON-CAMPUS HOUSING, NO OUT-OF-STATE TUITION,
FINANCIAL AID & SCHOLARSHIPS AVAILABLE

(419)998-3120 | WWW.UNOH.EDU

UA 2015 SPONSORS



BDS SUSPENSION
bds-suspension.com
Official Suspension



DO THE JOB RIGHT.

EASTWOOD
eastwood.com
Official Tool & Welder



FALKEN TIRE
falkentire.com
Official Tire



HI-LIFT JACK CO.
hi-lift.com
Official Jack



LIFETIME LED
lifetimedledlights.com
Official Lights



OFFROAD DESIGN
offroaddesign.com
Official Transfer Case



**POWER PRODUCTS
UNLIMITED INC.**
powerproducts
unlimited.com
Official Retailer



**SPIDERTRAX
OFF-ROAD**
spidertrax.com
Official Axles



**SYNERGY
MANUFACTURING**
synergymfg.com
Official Fabricator



VOODOO OFF-ROAD
voodooffroad.com
Official Towstrap



**WARN INDUSTRIES
INC.**
warn.com
Official Winch

“With the Magnum 205 and 4L80, our little jeep isn’t so little anymore”

9 With the Magnum 205 and 4L80, our little Jeep isn’t so little anymore. The long drive-train offers us multiple low and overdrive gear ratios, but it also requires a longer wheelbase. Luckily we had the tub built to accept a 107- to 109-inch wheelbase. With that much power, having a little longer, more stable footprint won’t be a bad idea.

10 Even though we were a long way from bolting on the Aqualu hood and Omix ADA replacement grille, it sometimes helps a build to get an idea of where you’re headed. We realized early that we should have added another 3 or 4 inches of hood length to clear the air intake and radiator/intercooler in front of the supercharged V-8, but we will make it work for now.

11 After the engine is mocked up it is time to start the suspension. Since we are using a JK frame, you would think we would use an off-the-shelf suspension kit, but we opted to design a custom three-link front suspension with a track bar using BDS Suspension’s builder parts and Fox racing shocks. This will give us a suspension designed around our drivetrain and allow us to fine-tune it to get all the power to the ground and soak up bumps at high speeds.

12 One of the secret parts of our front suspension is a right-hand-drive Jeep JK steering box. These usually mount on the inside of the passenger-side frame, but we moved it to the outside of the driver side to gain room for our radiator to cool the big engine. (See how everything is connected?) We ordered up two steering boxes from RockAuto.com so we have a spare because we don’t expect to find a spare very easily, and had them ported for ram assist at PSC Motorsports.

13 By moving the box to the outside of the frame we were able to run a longer draglink and a longer track bar. This gave us less side-to-side movement as the suspension cycles. The front Spidertrax axle is a fabricated housing so it’s easier to add an upper suspension link to the top of the differential than it would be with a common cast iron axle. In Part 3 we will show you how the Jeep turned out, but we’ll be updating the buildup for quite a few more months. 📺

SOURCES

CHEVY PERFORMANCE
chevrolet.com/
performance

FOX RACING SHOX
800.FOX.SHOX
ridefox.com

GEARSTAR PERFORMANCE TRANSMISSIONS
330.434.5216
gearstar.net

GEARWORKS
702.651.2071
gearworksinc.com

PSC MOTORSPORTS
817.270.0102
pscmotorsports.com

ROCKAUTO
Rockauto.com

TILDEN
408.600.0122
tildenmotorsports.com

Brake Upgrade Kits

SIX FABULOUS CHOICES

to suit every driving style and budget.

All **EBC** rotors are now black **GEOMET®** corrosion resistant coated...

These rotors **WILL NOT RUST**



NRS® - NUCAP Retention System® creates a mechanical bond, locking the friction to the backing plate.

Stage 1 Kit

Ultimax Daily driver pads & Geomet black OEM style rotors

Vehicle Type Prices From

Any Vehicle \$99

Stage 2 Kit

Greenstuff sport pads & USR slotted black Geomet Rotors

Car \$145

Stage 3 Kit

Greenstuff Trucksport pads & GD sport drilled black Geomet rotors

Truck/SUV \$175

Stage 4 Kit

Redstuff premium fast street pads & USR slotted black Geomet rotors

Car \$195

Stage 5 Kit

Yellowstuff highest friction pads & GD sport drilled black Geomet rotors

Any Vehicle \$245

Kit includes 100% British made ECO friendly quality high efficiency EBC brake pads fully tested and approved to meet or exceed all known standards plus premium Geomet corrosion resistant G3000 iron rotors of your pattern choice. Geomet is the NUMBER ONE brake rotor anti corrosion surface coating used by OEM builders (they use silver, we prefer black Geomet). Coating withstands severe salt spray tests for corrosion resistance.

Ask at Pep Boys
or your local retailer or
shop online at ...

EBC®
BRAKES
www.ebcbrakes.com

ROSCO P DRIVETRAIN



PART 4: SHOCKS, SHOCK HOOPS, & CUSTOM MOUNTING

By Verne Simons
PHOTOGRAPHY VERNE SIMONS

THE CONTROL ARMS AND FRONT suspension brackets that we've showed you in past installments of Rosco P. Drivetrain are just part of what's necessary to keep our former law enforcement Tahoe on the

road and trail. We also need shocks and springs that help hold the body and frame sprung weight (as opposed to unsprung weight) off the bump-stops, tires, and the ground. Sure, you know the rear suspension is being held up by a set of off-the-shelf Skyjacker 3½-inch springs, and you know we've talked about coilover shocks for the front in the past, but we were not sure what shocks we needed both in terms of travel and body size. After a few emails and phone calls a few fancy parts from Sway-A-Way were on their way to our driveway

where we could make sure they would work. Given our desire to keep the 2005 Tahoe road drivable yet capable off-road, Sway-A-Way sent us two 12-inch-travel, 2½-inch-body, remote-reservoir shocks with mounting hardware to run dual-rate coils up front. Out back we will use a pair of 10-inch-travel, 2½-inch-body, remote-reservoir shocks.

There are several steps we need to take in order to mount these shocks on the Tahoe, and that involves a few more parts and more than just a little bit of fabrication. With more help and guidance from our pal



4



5



2



3

Rob Bonney from Rob Bonney Fabrication, building and gathering all the right parts was a cinch. Bonney helped us understand what needed to happen and either showed us how or helped us make the various parts. That means our Tahoe is almost standing on all four tires as we write this. We also got a chance to do some fender trimming up front and to go through that NP241C that we showed you in Part 2 (May '15).

Next time we will be wrapping up a few loose ends of the project, like how we decided on coilover spring rates, and the gearing. With any luck we may just get some time in the dirt with ol' Rosco!

1 With the four-link front suspension assembled under the front of the Tahoe, the next step was to add a stout hoop system and coilovers to the front suspension. Since we are building off the front framerails it was decided that adding a 1/8-inch plate to the area would be a good way to reinforce the frame. We started by making a template out of cardboard with tabs for the shock hoops (two top tabs) and one for the track bar mounting area. With the template in hand we went over to Rob Bonney Fabrication so Bonney could cut the 1/8-inch plates. He added the strategically placed holes where we can rosette-weld the plate to the frame.

2 To attach the plate, use large clamps to hold the plate flat and then tack it into place. To match the contours of the frame, you may need to do persuade the 1/8-inch plate with a hammer. Hammer, tack, hammer, and tack some more. The rosette welds will help ensure that the plate is one with the frame. The tabs fold over on the frame to add beef to the areas where the track bar and shock hoops will be welded on. Again, these tabs are attached using a hammer and plenty of tack welds. Once the parts are in place you can finish-weld the edges of the plate to the frame.

3 All of the force from the front axle and front suspension will be transmitted to the frame via the shock hoops. They need to be strong. We started fabricating our shock hoops by bending up two tubular hoops. Then cope the ends to match the surface of the tabs from the plate just added. The hoops, one per side, will be connected via bridge that runs over the engine.

4 With the shock hoops started we knew we would need upper and lower coilover shock mounts. Bonney cut us these tabs and allowed us to cut eight 1/4-inch sleeves on his lathe from some 3/4x0.120-wall tubing that has a 1/2-inch inside diameter. Once home we welded the sleeves into the tabs and added the tabs to the axle and the shock hoop.

5 We also used Bonney's lathe to make a few spacers that are 0.30 inch wider than the misalignment washers from our 12-inch-travel front Sway-A-Way shocks. The spacers allow us to mount the shock tabs to the hoops and axle. That extra width allows the shock ends to slide in and out when we are installing or removing them. Also visible are the short runners that will go up from the hoops to meet the aforementioned bridge.

PEDAL DOWN. PULSE UP.



GET MORE OF WHAT GETS YOUR MOTOR GOING

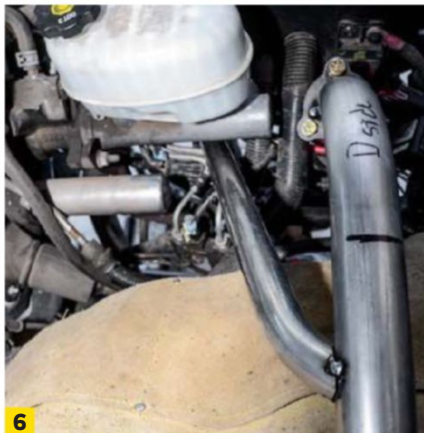
with a K&N® performance air intake system. It delivers more horsepower, acceleration and torque — guaranteed — and installs in about 90 minutes. Order online today and put more power right where you want it.

KNFILTERS.COM | 800-858-3333



**SUPERIOR AIRFLOW.
SUPERIOR PERFORMANCE.™**

SOME INTAKE SYSTEMS ARE NOT LEGAL FOR SALE OR USE ON ANY POLLUTION CONTROLLED MOTOR VEHICLE IN CALIFORNIA OR STATES ADOPTING CALIFORNIA EMISSION PROCEDURES. SEE KNFILTERS.COM FOR CARB STATUS ON EACH PART FOR A SPECIFIC VEHICLE.



EATON

Powering Business Worldwide



Eaton ELocker 4®

If you're serious about off-roading, install the selectable Eaton ELocker 4 differential. With 100% axle-lock at the touch of a button, you'll be able to tackle the most rugged terrain.



EatonPerformance.com

6 With both hoops temporarily tacked in place we moved on to building the bridge. The hoops and the main part of the bridge are made of 1½x0.120-wall DOM steel tubing. The additional tube runs from the upper shock mount to the bridge to prevent the top of the hoop from twisting (like a torsion bar) as the suspension loads and unloads.

7 Once the shock hoops and tabs were all mocked up and the bridge was tacked together we removed the whole system so we could finish-weld without risking melting or burning nearby wires and hoses. Having the hoops and bridge out of the truck also gives a good idea of how it all goes together.

8 For the lower coilover shock mounts we first removed the factory Dodge lower coil perch from the AAM front axle using a plasma cutter. This ¾-inch plate, again cut by Bonney, takes its place and helps tie the whole control arm mount and track bar bracketry back together. The two lower shock mount tabs are welded to the AAM's axletube. This gives us all the uptravel we can get out of the coilovers. The slots along the sides of the plates allow us to weld the plate to the factory brackets below it. We also tested for clearance of the lower coilover coil mount. The blue painters tape on the shock body and shock end help prevent dings and scratches.

9 Up front we will be running 12-inch-travel, remote-reservoir shocks. Out back, Sway-A-Way's 10-inch-travel, remote-reservoir shocks will fit with our Skyjacker lift coils and modified factory shock mounts. Both front and rear shocks are rebuildable and revalveable and will be charged with nitrogen once this thing is ready to roll. The shocks feature ¾-inch Nitro-Steel shafts that are chip and rust resistant, steel bodies plated with zinc, and red anodized 6061-T6 aluminum parts.

10 For the rear shocks we cut eight ¾-inch-long sleeves out of our ¾x0.120-wall tubing. We drilled out the rear shock mounting holes to ¾ inch. Using our spacers to allow room for the shock, we welded the sleeves in place.

11 With the 10-inch-travel Sway-A-Way shocks installed we just need to mount the reservoirs, charge the shocks, and tighten a few nuts and bolts. We notched part of the lower lip of the Tahoe's frame to clear the inside upper control arm mount.

12 After last time we got a bit of flack from Editor Williams for deciding to run a bent rear track bar with two rod ends on each end. His argument was that the track bar would flop up and down as forces changed. At first we thought we would just deal with that problem when it arose. Then we came across this cool ¾-inch shanked bushing that replaced one end of our track bar. No more floppy rear track bar! (Floppy Rear Track Bar sounds like a great name for our next garage band.)

13 Our NP241C transfer case was from the junkyard, and we want the Tahoe to be reliable as well as fun so we got a rebuild kit from our local transmission shop. There are two NP241Cs, one with a thick bearing on the input

shaft and one with a thinner bearing. We lucked out because our transfer case has the thicker and stronger input bearing. Rebuilding an NP241C is pretty simple relative to other transfer cases. Ours was in good shape but benefitted from new bearings and seals.

14 All along we have known we would need to trim the front sheetmetal to clear the 37-inch Mickey Thompson TTC tires from National Tire & Wheel. We've spent a lot of time trimming sheetmetal. There is an art to doing it so the results don't look butchered. By flexing the front suspension we were able to figure out how much metal needed to go. We ended up trimming

out this piece of inner fenderwell. The tire will clear the outer fender when flexed and turned. We did the trimming using a plasma cutter and an air saw, and then cleaned up the cuts with our 4½-inch angle grinder with a flap wheel. 

SOURCES

ROB BONNEY FABRICATION
602.370.7955
facebook.com/pages/Rob-Bonney-Fabrication/193559750764429

SWAY-A-WAY
818.700.9712
swayaway.com



LUND

Premium Style. Lasting Performance.

Automotive Accessories



The **LUND Terrain HX Step™** is an aggressive but functional design, these nerf bars provide a rugged off-road look that also makes it easier to get in and out of a truck. The design adds rocker panel protection from road debris and helps guard against door dings.

FEATURES & BENEFITS

- Made from a 3", 3mm thick heavy duty steel tubing
- Hoop steps are securely welded to the main tube
- Steps offer a 4" drop for easier cab entry and exit
- Includes a steel non-slip skid plate on each hoop step
- Available in a black powder-coated wrinkle finish
- Easy no-drill installation

PREMIUM TONNEAU COVERS

- Protects and conceals bed contents
- Improves fuel economy by up to 10%
- Heavy-duty, durable design resistant to water, mildew and rain
- Made in the USA



ELITE TWILL WEAVE

OR



TEXTURED VINYL



5 Styles available for Genesis and Genesis Elite



ROLL-UP COVER



SEAL AND PEEL COVER



TRI-FOLD COVER



HINGED COVER



SNAP COVER



MAGNUSON JK 3.6L SUPERCHARGER

Magnuson's MP1320 TVS kit for the 2012-2014 Jeep Wrangler JK 3.6L uses an Eaton Twin Vortices Series supercharger. This hybrid Roots-style supercharger is designed to increase airflow, operate quieter, and have a wider operating range and higher pressure capability while maintaining cooler operating temperatures. Claimed performance increases are 55 percent more horsepower and 40 percent more torque. The kit also includes high-flow fuel injectors, an intercooler, a heat exchanger, a handheld programmer, and all the necessary plumbing and hardware. Installation is designed to be all bolt-on and achievable in one day. **INFORMATION:** Magnuson Superchargers, 805.642.8833, magnacharger.com.



ARB JK DELUXE BULL BAR

The new ARB Wrangler JK bumper combines protection, light mounting locations, and a winch mount in a design that doesn't block the grille. The Deluxe bumper's wings are contoured to clear 37-inch tires and blend with the OE flare. An integrated winch platform is designed to accommodate low-profile Warn winch models up to 10,000 pounds. Other features include two Hi-Lift jack lift points and dual urethane bump pads. Holes for the OE driving lights and provisions for aftermarket lights are built in. The ARB JK Deluxe Combination Bull Bar is primed with zinc for corrosion-resistance. Satin and textured powdercoat finishes are available. **INFORMATION:** ARB USA, 866.293.9078, arbusa.com.



BAJA DESIGNS XL SPORT LEDS

The new XL Sport is engineered for affordable high-performance LED illumination. Baja Designs claims that this single-housing LED combines the distance of an 8-inch HID headlight with the smooth pattern of an LED. The XL Sport is rated at 1,800 lumens at 24 watts/1.4 amps. The light comes in both square and round housings. **INFORMATION:** Baja Designs, 800.422.5292, bajadesigns.com.



NITRO LAND CRUISER CONTROL ARMS

For 1998-2007 Toyota Series 100 Land Cruisers, Nitro Gear now has extended-travel upper control arms. Aftermarket torsion-bar lifts for these trucks limit the suspension downtravel; Nitro Gear's upper control arms are designed to provide an increase of up to 50 percent. The arms' cups are clocked to run parallel to the torsion bars. Further, they're profiled for improved tire-wheel clearance and use standard sealed ball joints. The ball joints and bushings have zerk fittings for squeak-free operation. Construction is TIG-welded chromoly DOM tubing. These arms are marketed as more affordable than replacement OE units. **INFORMATION:** Nitro Gear & Axle, 916.673.6464, nitro-gear.com.

OFF CAMBER JK RACK EXTENDER

Off Camber Fabrications offers an assembly that extends Jeep JK roof racks by 25½ inches. Made from 2-inch-OD DOM tubing, the assembly includes laser-cut brackets. A removable crossbrace is included. Finish is black powdercoat, and the rack is designed for bolt-on installation. **INFORMATION:** Off Camber Fabrications, 888.636.7223, offcamberfabrications.com.



MAGNAFLOW 2015 F-150 CAT-BACKS

MagnaFlow now offers 3-inch stainless-steel kits for 2015 F-150s with the 5.0L V-8 engine. These cat-backs are engineered to reduce exhaust backpressure while maintaining a deep, powerful tone. The new systems are available in five exit location options to suit the various bed/body configurations. Additionally, all MagnaFlow exhaust systems are made in the USA and come with a lifetime warranty. Installation is designed to be bolt-on. **INFORMATION:** MagnaFlow, 800.824.8664, magnaflow.com.

WeatherTech®

CUSTOM-FIT AUTOMOTIVE ACCESSORIES TO PROTECT YOUR VEHICLE



Accessories Available for

Acura · Audi · BMW · Buick · Cadillac · Chevrolet · Chrysler · Dodge · Ferrari · Ford · GMC · Honda · Hummer · Hyundai · Infiniti · Isuzu · Jeep · Kia · Land Rover · Lexus · Lincoln · Maserati · Mazda · Mercedes-Benz · Mercury · Mini · Mitsubishi · Nissan · Oldsmobile · Plymouth · Pontiac · Porsche · Saab · Saturn · Scion · Subaru · Suzuki · Toyota · Volkswagen · Volvo · and more!

Order Now: 800-441-6287



American Customers
WeatherTech.com



Canadian Customers
WeatherTech.ca



European Customers
WeatherTechEurope.com



TIRE ADVICE

Q I have a 2009 Nissan Titan Crew Cab 4x4. It has a 6-inch Pro Comp suspension lift and 35x12.5-18 Pro Comp Xtreme A/Ts. The truck needs new tires. The Pro Comps have gotten me a lot of miles but have had terrible wear. What are the best tires for my truck? I am on the highway probably 80 percent of the time and the rest of the time off-road getting to where I hunt and go four-wheeling. The local off-road shop is pushing either the Nitto Terra Grappler or Nitto Trail Grappler M/T. They say they sell more of those than any other tire. I was a big BFGoodrich fan before I did the whole Pro Comp theme on the truck. I like the look of the New BFG KO2 and the article that was in the last issue on them ["Baja Proven," Feb. '14]. I would appreciate your thoughts on which tire would do best.

STEVE MARKLE

Via nuts@4wheeloffroad.com

A Tire advice is tough because you'll ask 20 people and get 20 different answers. I have had experience with all of the tires you mentioned and can honestly say they are all a good choice. You mentioned that the Pro Comps (procompusa.com) had some irregular wear but that you were able to get a lot of miles on them, and I've had a similar experience with them. Once a tire starts cupping, for example, it's not going to stop. This is just one of the reasons why it's important to rotate tires regularly. While this is true of all tires, I've found that it is especially so with Pro Comps. Here in the desert Southwest where the rocks are pretty sharp, I've noticed they also have a tendency to chunk more than other tires. Still, they are pretty stout and

are a great value for the price. Like your Xtreme A/Ts, I was able to get over 50,000 miles out of a set of XTerrains, even with my casual attitude toward balancing and rotation. I also never experienced a puncture, which is impressive for where I used them.

Considering that your truck spends the majority of the time on the street, I would steer you more toward an all-terrain tire than a mud-terrain. A good all-terrain will wear better on the street and run quieter than its M/T equivalent while delivering acceptable traction off the pavement in most conditions. Both the Nitto (nittotire.com) and BFGoodrich (bfgoodrich.com) all-terrains you mentioned are excellent choices, and I would also suggest looking at the Goodyear DuraTrac.

Beyond that, it really boils down to which tire has the look you want and how well they perform in the type of terrain you most frequently encounter off-road. Both the Pro Comp A/T and the Nitto Terra Grappler are on the milder end of the spectrum in the looks department, while the Terra Grappler G2, BFG KO2, and DuraTrac have a slightly more aggressive look in my opinion. And don't forget the General Tire (generaltire.com) Grabber AT, which lands smack dab in the middle as far as looks.

Perhaps your best bet is to start paying attention to which tires the trucks are running in your area and at your four-wheeling and hunting spots. You didn't mention where you live, but a tire that does better in the rocks may not do so well in snow or slippery mud, so my personal tire preference may not do so well in the terrain you encounter. As long as you stick with a quality name brand, it will be hard to go wrong with your tire choice as far as street manners go. While I would certainly take the suggestions of your local shop under advisement, I'd also ask some folks who aren't wanting to sell you something. I'd poll some other locals about performance off the pavement and let that help guide your final decision.

JK SQUEAKS REVISITED

Q I just read the Nuts & Bolts email from Scott D. called "Squeaky JK" [May '14]. He mentioned that his JK has an AEV lift and tire carrier. I have the same setup on my 2013 JK Rubicon unlimited. The persistent squeak that was also driving me nuts turned out to be the saddle block on the tire carrier. Two fixes: Adjust the turn buckle to ensure a tight fit (read the installation instructions for proper tension), and

keep it clean and dust free. The block is a hard rubber or some other pliable material (not sure which), and I clean it with VinylX. After making two or three adjustments and keeping it clean, the squeak is gone.

OTTO RUEGER

Via nuts@4wheeloffroad.com

A Duly noted! Not all squeaks that happen on bumps and rough roads come from the suspension. They often come from unlikely places, which is why it's hard to diagnose them by letter. Hopefully this helps out a fellow JK owner chasing the same squeaks.



THREE-POINT-SLOW

Q I could use your advice. I have a 1993 Toyota pickup 4X4 Xtra Cab with a 3.0L V-6 and a manual transmission. It has 165,000 miles, and it's a clean truck with no rust. I am the second owner, and I have owned it since 2000. About five months ago I brought it to the local Toyota dealer for a tune-up. Since then I have had nothing but engine problems. Every month the sparks plugs would go bad then the fuel injectors went out and now a head gasket. There are three good Toyota shops in the area, and none of them want to fix the engine. They talk me out of doing the work and say it's the worst engine Toyota ever made. \$10,000 to rebuild the engine? No thanks! As much a mechanic as I am, a motor swap is out of my league. Now what? Sell it for parts? I'm not sure what to do. Any advice will help.

JOE

Via nuts@4wheeloffroad.com

A I hate to be the bearer of bad news, but the shops you visited were giving you good advice. The 3.0L V-6 is one



**RESPECTED
IS OPEN ACCESS**TM
www.respectedaccess.org

DUNE OUR PART

When OHV users work to keep sand dunes clean, public land managers become OHV-use advocates and recreational opportunities expand. It's one more way that respected access is open access.

tread lightly![®]
ON LAND AND WATER

SKYJACKER® SUSPENSIONS

Forging the way 4 decades



With diversity in New Jeep ownership it is no surprise to find Jeep Wrangler JK is sporting a softer rate spring for a softer ride. With this Skyjacker® has created Softride® Coil Kits to maintain OE ride of newer models while still meeting the challenges of off-road terrain of the preceding still available Rock Ready® Coils. Softride® Coil Kits can still be outfitted on older models to offer the benefits and advantage the superior ride when lifted.

Rock Ready® Coil Kits higher/ Earlier OE match spring rate is a great choice for any year model with additional weight of bumpers, body armor, skid plates and winches assisting in maintaining lifted height and superior off-road ride.

Skyjacker® offers Softride® kits with every available shock option, Hydro, Nitro Gas and M95 Series Monotube with its dirt bike type technology for leak down protection you cannot find anywhere else.

Further advantage with Skyjacker® Softride® is the FMVSS Testing. All kits have been tested and are certified compliant with FMVSS (Federal Motor Vehicle Safety Standards) 126 mandate to maintain the level of safety your vehicle rolled of the production floor with, a continuation of Skyjacker's 40+ years focus on cutting edge technology to bring you a safe, no compromise well engineered suspension you can trust.



2-2.5" Kit

Shown with Hydro Shocks,
Nitro & M95 also available



3.5-4" Kit

Shown with Hydro Shocks,
Nitro & M95 also available

Skyjacker® Suspensions offers numerous options for 2 Door and 4 Door Jeeps, as well as kits and options for all major makes and models. Visit us on the web or call today to find a dealer near you.

1.866.Skyjacker

Skyjacker.com

NUTS & BOLTS

of the darkest points in Toyota history. It didn't make much more power than its contemporary four-cylinder, and it popped head gaskets with such alarming regularity that there was a recall. The good news is that Toyota gurus generally agree that once the head gasket issues are resolved, the 3.0L 3VZ is pretty bulletproof. It seems unlikely that your truck made it to 165,000 miles without being fixed at some point as part of the recall (and if by some miracle it was not fixed, I'm sure the recall has long since expired), so that means your engine is just succumbing to its age. I suspect your trip to the dealer for a tune-up just happened to coincide with the start of the problems, because nothing that is part of a regular tune-up could cause the chain reaction you've seen since then.

You face a difficult choice. On the one hand, you could rebuild the engine. I found several remanufactured long-blocks for \$2,500-\$3,000, but these were only the block and heads. There's quite a bit of additional labor in installing the timing belt, timing cover, oil pan, engine accessories, and so on, let alone installing the engine in the vehicle. If this is beyond your mechanical experience level, it's likely that you would have to pay someone more than the truck is worth to get it back on the road. Even then, you would have something that moves under its own power but can barely get out of its own way. On the other hand, swapping the engine for a later 3.4L or a Chevy 4.3L V-6 would also involve a lot of money and expense, not to mention even more mechanical know-how than installing a rebuilt engine.

If neither of these options sounds appealing, then it might be best to cut your losses and sell the truck not running. It will be worth a fraction of what it would be if it were a driver, but if it's in decent shape you should be able to get enough to put toward a newer Toyota with a much better and more reliable engine. ☐

SUBMISSION INFORMATION

Confused? Email your questions to the address below with "Nuts, I'm confused" as the subject. Include a picture, if applicable, no smaller than 1600 x 1200 pixels (or two megapixels) as a TIFF, EPS, or maximum-quality JPEG. We also read the forums on (4wheeloffroad.com).

WRITE TO: Nuts & Bolts, 4-Wheel & Off-Road, 831 S. Douglas St., El Segundo, CA 90245 **FAX TO:** 818.566.8501 **EMAIL TO:** nuts@4wheeloffroad.com

POWERTANK®
"HIGH PERFORMANCE AIR SYSTEMS"

**THE CHAMPION'S CHOICE
FOR HIGH POWERED AIR**



ERIK MILLER
2012 KOH WINNER

BLACK OPS PT10
(Matte Black)

25' Coil Hose or
30' Straight Hose Available

See web for new Tank colors, Regulators and More!
POWERTANK.COM
OR CALL **800.574.3706**

WHEEL SPACERS
We will beat anyone's advertised price!

Run Larger Tires
Alleviate Rubbing Problems



909-370-0144 
trailsport4x4.com
Trail Sport Unltd., Inc.

**DON'T GET STUCK
WITHOUT THEM!**

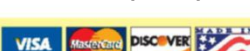
The Original
PULL PAL
THE FOLDABLE LAND ANCHOR
970.963.4507 • pullpal.com



PREMIER POWER WELDER
ONBOARD WELDER
970.963.8875 • premierpowerwelder.com

LEARN TO WELD
DVD



 **ORDER TODAY!**

BOYCE EQUIPMENT & PARTS
2893 AMERICAN WAY, OGDEN, UT 84401
801-393-0007 WWW.BOYCEEQUIPMENT.COM



**YOUR 4X4
& MILITARY,
TRUCK & PARTS
SOURCE FOR
OVER 50 YEARS!!**



**-DANA 60's
-14 Bolt's
-ROCKWELL 2.5 TON
-ROCKWELL 5 TON
-PLANETARIES**



FIND US ON FACEBOOK



MAG-HYTEC

**Heavy Duty Transmission Pans
And Differential Covers**

- ⇒ Cast Aluminum A356-T6
- ⇒ Magnetic drain plugs
- ⇒ 25 To 50° Heat reduction
- ⇒ 1 1/2 To 8 quarts Higher capacity
- ⇒ Plugged sending unit fittings
- ⇒ Magnetic dipsticks
- ⇒ ARP O-rings most applications
- ⇒ Quicker maintenance

**Often Copied,
Never Duplicated!**
818.786.8325
www.mag-hytec.com



3/4-TON DIESEL TOW TEST WHO WINS OUR CHALLENGE?

**PETERSEN'S
4WHEEL
& OFF-ROAD**

**SUPER SUSPENSION
HOW TO LIFT YOUR TRUCK SPECIAL**

**NOT ACTION
IN THE
DESERT**

**LEVELING KIT
BUYER'S
GUIDE**



**FACEBOOK.COM/
4WHEELOFFROAD**

**"Like" the 4WOR
Facebook page
and enjoy:**

- Sneak peeks at upcoming stories
- Vehicle updates
- News





WIDEST SELECTION OF QUALITY DIFFERENTIAL PARTS

TWO BEST BRANDS | OVER 6,000 PART NUMBERS | SAME DAY SHIPPING



RING & PINIONS • FRONT & REAR AXLES • LOCKERS
POSITRATIONS • INSTALL KITS • LOCKING HUBS

CALL TODAY! 1-866-286-3550

RINGPINION.COM | WHOLESALE | DIFFWIZARD.COM

MICHAEL HARRINGTON

Director/Camera/Editor

Automotive & Off-Road Media Production

Web - Broadcast - DVD

Ask
About
FREE
Aerial
Camera!

317.645.6668

www.michaelharrington.tv

mike@michaelharrington.tv

Inform, Entertain & Sell to your Customers



myowncover
upload - design - order



Looking for a personalized gift
for almost any occasion?

- Upload your own photos
- Design great personalized covers
- Order prints to share or give as gifts

Create your own magazine cover and be a star.

www.myowncover.com



GEICO Motorcycle
**ENDURO
CROSS**
MOOSE RACING

**TOUGHEST INDOOR OFF-ROAD
RACING ON THE PLANET**

MARCH 6 > Daytona Beach, FL
MARCH 21 > Salt Lake City, UT
APRIL 25 > Sacramento, CA
MAY 1 > Las Vegas, NV

OCT 3 > Denver, CO
OCT 17 > Everett, WA
NOV 7 > Boise, ID
NOV 22 > Ontario, CA



PITS OPEN TO THE PUBLIC ALL DAY FREE



WATCH ON

CBS SPORTS
NETWORK

VISIT ENDUROCROSS.COM FOR MORE INFO!



Inline Tube.com
The Professional Restorers #1 Choice
Premium Stainless or OEM

Straight Length
Brake Clips
Spring Wrap
Tube Nuts
Fittings
Tubing
& more

Brake & Fuel Lines

Soft Bending
& Flaring
Stainless
Tubing

Stainless Brake Hoses

Many
Exclusive
New Products!

Prop. Valves

Tools

Online
Ordering @ inlinetube.com

Brake Plumbing Products

15066 Technology Dr. Shelby Twp. Michigan 48315
Order (800)385-9452 Ph (586)532-1338

Highest Quality / Best Price / Largest Selection

EXPLORE & DISCOVER

© 2015 Axial LLC, Inc. A subsidiary of Hobbico, Inc. All Rights Reserved.

FEATURED: SCX10" JEEP WRANGLER
UNLIMITED RUBICON

axial
www.axialracing.com
facebook.com/axialinc

Falken, Ultra, Power Windows, Jeep, and other logos are trademarks of Chrysler Group LLC and are used under license by Axial Inc. © Chrysler Group LLC 2015.

More than just a good ol' mudder's rope!

BubbaRope  Made in the USA

- ✓ Water proof, UV and abrasive resistant
- ✓ Highest breaking strengths available
- ✓ Gator-ize® coating

Bubba Rope® • Gator-Jaw™
Bubba Hardware • Tree Hugger
Life Guard • Tie-Downs

bubbarope.com
877-499-8494

OPEN TO THE PUBLIC

THANKS TO RESPONSIBLE RIDERS LIKE YOU

Help Keep Your Trails Open and Healthy.

Recreate responsibly
and stay on designated routes.

treadlightly!®
www.treadlightly.org

Get Your **FREE**
JEEP® PARTS CATALOG
Call or visit us online.

800.865.0961
4WD.com/Catalog

Call Center: Mon-Fri 8am-10pm, Sat-Sun 9am-7pm
Jeep® Wrangler and the Jeep® Grill Design are registered trademarks of Chrysler LLC.

4WD®
4Wheel Drive Hardware
Gear to get you there.™

PETERSEN'S
4WHEEL
& OFF-ROAD

**OFF-ROAD ONLINE,
ALL THE TIME.**
WWW.4WHEELOFFROAD.COM

THE Essentials® Ultimate Catalogs

for Jeep® Vehicles

JUST PICK THE **FREE** CATALOG YOU NEED!



ESSENTIALS FOR '41-'06 CJ & WRANGLER

Our NEW 316 page catalog covers ALL '41-'06 Classic, MB, CJ, YJ, and TJ Wrangler® Jeep® Vehicles!

FREE '41-'06 Catalog request code:

P4DJJ

NEW CATALOG FOR '07-'15 JK

Expanded 304 Page catalog for JK exclusively for your '07-'15 Wrangler/Unlimited

For a FREE JK catalog request code:

P4DJK



CATALOG FOR CHEROKEE VEHICLES

Our NEW FREE 88 pg catalog for Cherokee & Grand vehicles from '84-'15

For FREE Cherokee catalog request code:

P4DJX



FREE!
SCAN ME!
With a smartphone QR reader

REQUEST YOUR PREFERRED Essentials® CATALOG TODAY!

888-745-9961

Mon-Thurs 8AM-12AM, Fri 8AM-9PM & Sat 9AM-5PM EST



25 Years

The terms Quadracore and Essentials are Registered Trademarks of Quadracore Incorporated, Registered at U.S. Patent and Trademark Office. Quadracore, Inc., an independent supplier of accessories for sport utility vehicles, has no affiliation with Fiat Chrysler Automobiles (FCA). The terms Jeep, Wrangler, Rubicon, Unlimited, Mopar, Cherokee, and the Jeep Grille Design are registered trademarks of FCA and are used for identification purposes only. © 2015 Quadracore Incorporated.

OFTEN COPIED NEVER DUPLICATED

WWW.4XSHAFT.COM
Tom Wood's
CUSTOM DRIVE SHAFTS
"Trail Tested, Competition Proven & Show Quality"
1-877-4X-SHAFT

TILDEN MOTORSPORTS

Your LSx Superstore!

- Standalone Engine Management Systems
- Ready To Run Engine Packages
- Fuel System Plumbing Kits
- LS Swap Crossmembers
- Sheet Metal Oil Pans
- Superchargers
- Cam Packages
- And More!



HUNDREDS OF BRANDS
THOUSANDS OF PARTS!

10% OFF
YOUR ONLINE ORDER
USE DISCOUNT CODE:
"5102ROW4"
POLYPERFORMANCE.COM
CALL (805) 703-2060
*SOME RESTRICTIONS APPLY

PETERSEN'S
4WHEEL
& OFF-ROAD

ULTIMATE ADVENTURE

2014 DVD!

COLLECTOR'S EDITION
EXCLUSIVE 90-MINUTE
DIRECTOR'S CUT

Order your DVD now and get in on the action as 23 4x4s drive to survive miles of backroads and tough trails of the Midwest!
THE CORN BELT CRUNCH: Nebraska, Iowa, Illinois & Missouri



BDS
SUSPENSION



bank
POWER



EXTREME DUTY
BUMPERS

DO THE JOB RIGHT
VOODOO
ROPES

OFFROAD
DESIGN

METHOD
RACE WHEELS

Speaker
Engineered Lighting Solutions



NITRO
FUELED BY ENTHUSIASTS



ORDER NOW!

OffroadPowerProducts.com
855-4OFFROAD Only \$17.99



NEGATIVE CAMBER

Mudding in one of our favorite spots trying to climb out of the creek straddling a deep tire rut. This tree just jumped out in front of me.

BOB MAGLITTO

Via whoops@4wheeloffroad.com

SUBMISSION INFORMATION

Send us your wheeling foul-ups! Letters must be signed by the vehicle's owner. Due to the large volume of mail we receive, we regret that not all submissions can be used and none will be returned. Digital photos must measure at least 1,600 by 1,200 pixels (or two megapixels) and be saved as a TIFF, an EPS, or a maximum-quality JPEG file. **WRITE TO:** Whoops!, 4-Wheel & Off-Road, 831 S. Douglas St., El Segundo, CA 90245 **EMAIL TO:** whoops@4wheeloffroad.com

OCTOBER 2015 VOLUME 38, NUMBER 10

4-WHEEL & OFF-ROAD (ISSN 0162-3214). Copyright 2015 by TEN: The Enthusiast Network Magazines, LLC. All rights reserved. Published monthly by TEN: The Enthusiast Network, LLC, 261 Madison Avenue, 6th Floor, New York, NY 10016-2303. Periodicals postage paid at New York, NY, and additional mailing offices. Printed in the USA. Single copy price is \$5.99. Subscription rates: U.S. and U.S. Possessions, one year \$18; Canada, one year \$30; all other countries, one year \$42 (includes surface mail postage). Payment in advance. U.S. funds only. **POSTMASTER:** Send all UAA to CFS. (See DMM 7074.12.5); **NON-POSTAL AND MILITARY FACILITIES:** Send address corrections to 4-Wheel & Off-Road, P.O. Box 420235, Palm Coast, FL 32142-0235.

GET EVEN MORE 4-WHEEL & OFF-ROAD ON YOUR COMPUTER OR SMART PHONE AT THESE SITES



4wor.com



facebook.com/4wheeloffroad



twitter.com/4wheeloffroad



youtube.com/user/4wheeloffroad



goo.gl/rJHmT

WINDSHIELDS AND MORE!

For CHEVY/GMC, FORD & DODGE

Need a Windshield or Windshield Rubber?

Checkout our detailed Catalogs,
Call or Go Online today!

**LMC
TRUCK**

PARTS & ACCESSORIES

PARTS & ACCESSORIES FOR TRUCKS & SUVS

1947-13 CHEVY/GMC

1948-14 FORD

1972-12 DODGE

©2015 Long Motor Corp.

800-562-8782

LMCTruck.com



WE ARE GRIT AND DIRT
AND BITS OF EARTH.

OPEN COUNTRY

Durability in the Shape of a Tire.